

OSCO[®]inc.

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RUNNERLESS MOLDING SYSTEMS

OSCO[®] inc. OSCO[®] inc. RUNNERLESS MOLDING SYSTEMS SYSTEMS

Where Innovation Flows

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Since 1982, one company stands out for quality, integrity and customer loyalty in the runnerless molding system industry. That company is OSCO, Inc.

Innovative and responsive to the changing needs of the industry for over their thirty-year history, OSCO is recognized worldwide for the development and engineering of accurate, durable and time-saving products. Our nozzles, valves, filters and control systems save our customers downtime, waste and money. Offering both stock and custom engineered items, OSCO answers and exceeds the needs of the industry for practicality, reliability, functionality and dependability.

Working with our customers every day to solve their needs, OSCO welcomes the opportunity to assist your company by providing well thought-out solutions to its injection molding needs. Contact OSCO today, and you'll open the gates to better molding systems.

PIN Gate

155

Patented Single **Cavity Valve Gate**

Industry's first Multi-Gate Nozzle

First Valve Gate Sequencing Controller

Patented Filter

Threaded-on Tips

Industry's first self-contained cylinder for valve gating

Osco is founded 1982

1982







Mission Statement

Our purpose and passion is to provide creative effective molding solutions which contribute to our customer's success. With integrity and ingenuity as our guiding principle, we strive to be a positive force within our local and global community.

Where Innovation Flows

OSCO Enc. RUNNERLESS MOLDING SYSTEMS

Standard Terms and Conditions

To our valued customers: The nature of our business is such that we handle a large number of orders, many of which specify terms and conditions that would add to, or differ from, those set forth herein. To negotiate individually with respect to these terms and conditions, which may vary from customer to customer, would be to seriously interfere with our service to all of our customers. Therefore we will adhere to the terms and conditions stated below.

- 1. Acceptance: All quotations are valid for thirty days unless otherwise stated. OSCO products are offered for sale only on the conditions and terms contained herein. Buyer agrees that all orders, including any arising from our proposal, shall include these terms and conditions only, notwithstanding any different or additional terms that may be embodied in the buyer's order or conveyed through any agent of OSCO Inc. OSCO Inc. reserves the right to reject orders as in our judgment is mandated by current business conditions.
- Prices: Quoted prices and discounts apply only to the specific quantities of items or specific services stated and do not include any taxes, transportation charges, special packaging or labeling, or other miscellaneous items or services not specified. Prices are subject to correction for errors.
- 3. **Payment Terms:** Net 30 days upon approved credit for catalog products. Custom manifold systems, hot half systems, and custom nozzle assemblies will have payment terms in thirds. The first two thirds are due prior to shipping, and the balance is due net 30 days with approved credit. All products sold remain the property of OSCO Inc. until full payment is received. Customer is responsible for reporting any sales/use tax required by your state, on products purchased from OSCO Inc.
- 4. Minimum Order and Quantity: \$50.00 minimum order for catalog products. Minimum quantity of custom-made nozzle tips and components is two (2) pieces.
- 5. **Warranty:** OSCO Inc. warrants its products against defects in material and workmanship for a period of one year, provided such parts are properly applied, used and maintained. OSCO does not warrant any products against damage from corrosion, contamination, misapplication, improper specifications or operating conditions beyond our control. OSCO products and services are sold subject to our mutual agreement that OSCO's liability is limited to the replacement or repair at our factory, provided product is returned transportation prepaid, within one year of its purchase. No other warranties (expressed or implied) are part of the agreement.
- 6. **Returning Merchandise:** Standard unused catalog products may be returned for credit, less a 15% restocking fee, within fourteen days of order placement. Special and Custom orders are not returnable.
 - All returns to OSCO must have the following:
 - * Prepaid Transportation
 - * Return Material Authorization (RMA) Number. Contact OSCO Sales department prior to returning any merchandise to receive an RMA number.
 - * Custom and Special products are not returnable.
- 7. Cancellation of Orders: Buyer may cancel all or any part of an order by providing OSCO Inc. written notice of cancellation. The buyer will incur standard OSCO engineering and manufacturing rates for any and all work complete up to the notice of cancellation. Material cost, and handling charges also apply to the cancellation cost. If the order was complete at time of cancellation, the cancellation charge is equal to the contract amount plus a restocking fee.
- 8. **Shipping Schedules:** Shipping dates are estimates based on OSCO's present engineering and manufacturing capacity and scheduling. All shipping dates are subject to OSCO's prompt receipt from Buyer of a written purchase order, letter of credit, down payment, and other conditions specified in the agreement. Shipping date estimates are directly related to engineering's receipt of customer drawings and de sign approvals for release to manufacturing. Delays of OSCO design approval may result in shipping date delays.
- 9. Force Majeure: OSCO Inc. shall not be held liable for any delay in performance or nonperformance which is due to war, fire, flood, acts of god, acts of third parties, acts of governmental authority or any agency or commission thereof, accident, breakdown of equipment, differences with employees or similar or dissimilar causes beyond our reasonable control, including but not limited to, those interfering with production, supply, or transportation of products, raw materials or components or our ability to obtain, on terms we deem reasonable, material, labor, equipment or transportation.
- 10. **Applicable Law and Jurisdiction:** This agreement and any disputes arising out of or in conjunction with this agreement are governed by and construed in accordance with the laws of the State of Michigan.
- 11. Charge Cards Accepted: VISA, MasterCard, DISCOVER, AMERICAN EXPRESS.

Where Innovation Flows



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Mini-MGN (Multiple Gate Nozzle)



Mini-HSN "G" (Hot Sprue Nozzle)



Mini-HSN "H" (Hot Sprue Nozzle)



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Balanced Fill © © ©

Temperature Control at Each Gate

Better Gate Cosmetics

I ⊕

Temperature Control Each Gate



Field Serviceable













AFS-20-G/H HSN - MINI

The "AFS" Absolute Flow Style HSN MINI - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin feed. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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AFS-20-G/H MINI - BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 ℃)

	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.375	.182	.3755	.060
.500	.182	.5005	.080
.750	.182	.7505	.080



BLS-20-G/H HSN - MINI

The "BLS" Body Less Style HSN MINI - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin feed. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



H = Style

HOW TO ORDER: Specify dimensions by completing the following chart. Call: 1-800-499-OSCO

NOTE: For sizes other than shown, please contact Osco Tech Service.

2.000" = 20

2.500" = 25

3.000" = 30

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

3/4 **= 7**

Specify resin to be processed.

 $\mathbf{N} = No$

MIN. = .030

MAX. = .060

3.0

BLS-20-G/H MINI - BORING





safety. For some very critical applications, an empirical factor may have to be obtained.

FBS-20-G/H HSN - MINI

The "FBS" Full Body Style HSN MINI - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

FBS-20-G/H MINI - BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 ℃)

	RMATION	BORING INFORMATION		
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND	
.375	.182	.3755	.060	
.500	.182	.5005	.080	
.750	.182	.7505	.080	



RGS-20-G/H HSN - MINI

The "RGS" Recessed Gate Full Body Style HSN MINI - 20 Serles Hot Sprue Nozzle utilizes a Ø.156 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



FULL TIP RADIUS

PARTIAL TIP RADIUS



Specify resin to be processed.

NOTE: For sizes other than shown, please contact Osco Tech Service. OSCO° inc.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

7.0

Call: 1-800-499-OSCO

RGS-20-G/H MINI - BORING





Ø1.52

CLEARANCE

Ø1.501 *.001

CONTACT

O

T" DIA

BORE

.225 DP. ·

.060 CONTACT

6

30°

CONTACT

LAND

.375 C'BORE

"AA" DIM.



"H" STYLE BORING INFORMATION

THERMAL EXPANSION NOTE

WIRE SLOT DEPTH TO BE

1/8" BELOW C'BORE

Ø.750 NOZZLE HEATER

CLEARANCE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFOR	RMATION	BORING INFORMATION		
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND	
.375	.182	.3755	.040 MIN.	
.500	.182	.5005	.040 MIN.	
.750	.182	.7505	.040 MIN.	



Multiple Gate Nozzle System, "MINI - MGN" SERIES 1000

<u>NOZZLE DESCRIPTION</u>: The "MINI-MGN" 1000 Series Multiple Gate Nozzle features up to four individually controlled probes positioned on a 1.000" "D" Diameter. The "MINI-MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-716 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1000 MINI - MGN is four (4).



"A" DIM = 2.000



HOW TO ORDER

CATALOG	NOZZI F				
NUMBER	"A" DIM.	PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES
MGN MINI -1020	2.000	PROBE-MGN-200	TCH-2150-90	MBHT-2510	4
MGN MINI -1025	2.500	PROBE-MGN-250	TCH-2200-90	MBHT-2510	3

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
- Resin to be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° in



Multiple Gate Nozzle System, "MINI-MGN" SERIES 1500

<u>NOZZLE DESCRIPTION</u>: The "MINI-MGN" 1500 Series Multiple Gate Nozzle features up to six individually controlled probes positioned on a 1.500" "D" Diameter. The "MINI-MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-716 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1500 MGN is six (6).



HOW TO ORDER

Specify:	CATALOG	NOZZLE	ASSEMBLY INCLUDES			
Nozzle Catalog Number "D" Diameter	NUMBER	"A" DIM.	PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES
Number of Probes	MGN-MINI-1520	2.000	PROBE-MGN-200	TCH-2150-90	MBHT-2510	6
Application Pocket	MGN-MINI-1525	2.500	PROBE-MGN-250	TCH-2200-90	MBHT-2510	6

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NNERLESS MOLDING SYSTEM

- 1/2" or 3/4" Radius for Direct feed Application

Resin to be Processed

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

Multiple Gate Nozzle System, "MINI-MGN" SERIES 1700

<u>NOZZLE DESCRIPTION</u>: The "MINI-MGN" 1700 Series Multiple Gate Nozzle features up to six individually controlled probes positioned on a 1.750" "D" Diameter. The "MINI-MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-916 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1700 MGN is six (6).



"A" DIM = 2.000

"A" DIM = 2.500

HOW TO ORDER

CATALOG			ASSEMBL	Y INCLUDES	
NUMBER	"A" DIM.	PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES
MGN-MINI-1720	2.000	PROBE-MGN-200	TCH-2150-90	MBHT-2710	6
MGN-MINI-1725	2.500	PROBE-MGN-250	TCH-2200-90	MBHT-2710	6

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Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
- Resin to be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

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Multiple Gate Nozzle System, "MINI-MGN" SERIES 2000

<u>NOZZLE DESCRIPTION</u>: The "MINI-MGN" 2000 Series Multiple Gate Nozzle features up to eight individually controlled probes positioned on a 2.000" "D" Diameter. The "MINI-MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-916 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 2000 MGN is eight (8).



"A" DIM = 2.000

"A" DIM = 2.500

HOW TO ORDER

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
- Resin to be Processed

CATALOG	NO77LE	ASSEMBLY INCLUDES				
NUMBER	"A" DIM.	PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES	
MGN-2020	2.000	PROBE-MGN-200	TCH-2150-90	MBHT-3010	8	
MGN-2025	2.500	PROBE-MGN-250	TCH-2200-90	MBHT-3010	8	

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

NOTE: For sizes other than shown, please contact Osco Tech Service.



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MINI - MGN - BORING



Multiple Gate Nozzle System, "MINI-MGN" / MACHINING DETAILS

*NOTE: MINIMUM GATE DIAMETERS ARE NOT ACCEPTABLE WITH ALL MATERIALS OR APPLICATIONS.

HOW TO ORDER

NOZZLE	NOZZLE	GATE WELL	PROBE	GATE "C)" DIA. *
"A" DIM.	XT DIM.	DEPTH +.000 001	BORE DIA.	MIN.	Ø.025
2.000	.427	.437	Ø.500	MAX.	Ø.125
2.500	.927	.937	Ø.625		

NOTE: For sizes other than shown, please contact Osco Tech Service.

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	OSCO INC. MGN NOZZLE ASSEMBLY BORING INFORMATION MAXIMUM NUMBER OF GATE PROBES							
	"D" DIA.	"P" DIA.	"C" DIA.	"W" DIM.	"X" DIM.	"Y" DIM.	"A" = 3	"A" > 3
	1.000	2.751	3.125	.500	.900	.575	4	3
	1.500	2.751	3.125	.750	.900	.575	6	6
-	1.750	3.000	3.375	.875	1.050	.550	6	6
	2.000	3.250	3.625	1.000	1.195	.550	8	8



Hot Sprue Nozzles

Successfully running the *toughest resins* • LCP / PEEK / AMODEL **NYLON / TORLON** MIM / ULTEM





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Hot Sprue Nozzles

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Design Versatility



Field Serviceable



Tip Styles











LPT - Low Profile



AFS-20-G/H HSN

The "AFS" Absolute Flow Style HSN - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin feed. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

AFS-20-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 ℃)

TIP INFORMATION		BORING INFORMATION		
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND	
.375	.182	.3755	.060	
.500	.182	.5005	.080	
.750	.182	.7505	.080	



BLS-20-G/H HSN

The "BLS" Body Less Style HSN - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin feed. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



NOTE: For sizes other than shown, please contact Osco Tech Service.

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BLS-20-G/H BORING



"H" STYLE BORING INFORMATION

"G" STYLE BORING INFORMATION





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)



FBS-20-G/H HSN

The "FBS" Full Body Style HSN - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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1-800-499-OSCO

FBS-20-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.375	.182	.3755	.060
.500	.182	.5005	.080
.750	.182	.7505	.080

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

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RGS-20-G/H HSN

The "RGS" Recessed Gate Full Body Style HSN - 20 Series Hot Sprue Nozzle utilizes a Ø.156 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



FULL TIP RADIUS

PARTIAL TIP RADIUS





NOTE: For sizes other than shown, please contact Osco Tech Service.

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Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

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RGS-20-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 $^\circ$ F)

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.375	.182	.3755	.040 MIN.
.500	.182	.5005	.040 MIN.
.750	.182	.7505	.040 MIN.



AFS-50-G/H HSN

The "AFS" Absolute Flow Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc. NNERLESS MOLDING SYSTEMS
AFS-50-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFOR	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.160	.5005	.080
.750	.150	.7505	.150
1.000	.150	1.0005	.150



BLS-50-G/H HSN

The "BLS" Body Less Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



NOTE: For sizes other than shown, please contact Osco Tech Service.

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Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

11.0

BLS-50-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)



* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

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FBS-50-G/H HSN

The "FBS" Full Body Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.

13.0

FBS-50-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

TIP INFOR	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.160	.5005	.080
.750	.150	.7505	.150
1.000	.150	1.0005	.150



AFS-50-P HSN

The "AFS" Absolute Flow Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "P" Style Nozzle is engineered for general purpose resins.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)



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NOTE: For sizes other than shown, please contact Osco Tech Service.

AFS-50-P BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.160	.5005	.080
.750	.150	.7505	.150
1.000	.150	1.0005	.150



BLS-50-P HSN

The "BLS" Body Less Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "P" Style Nozzle is engineered for general purpose resins.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

"AA" DIM. = "A" DIM. + THERMAL EXPANSION



NOTE: For sizes other than shown, please contact Osco Tech Service.

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BLS-50-P BORING







THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)



OSCO° inc.

FBS-50-P HSN



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)



NOTE: For sizes other than shown, please contact Osco Tech Service.

19.0

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FBS-50-P BORING



"P" STYLE BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
.500	.160	.5005	.080
.750	.150	.7505	.150
1.000	.150	1.0005	.150



RGS-50-G/H HSN

The "RGS" Recessed Gate Full Body Style HSN - 50 Series Hot Sprue Nozzle utilizes a Ø.250 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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21.0

RGS-50-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - $68 \,^\circ$ F)

TIP INFO	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
.500	.160	.5005	.040 MIN.
.750	.150	.7505	.040 MIN.
1.000	.150	1.0005	.040 MIN.



AFS-100-G/H HSN

The "AFS" Absolute Flow Style HSN - 100 Series Hot Sprue Nozzle utilizes a Ø.375 resin feed. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

23.0

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AFS-100-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFOR	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.125	.5005	.060
.750	.230	.7505	.080
1.000	.150	1.0005	.150



BLS-100-G/H HSN

The "BLS" Body Less Style HSN - 100 Series Hot Sprue Nozzle utilizes a Ø.375 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



G = Style

H = Style



HOW TO ORDER:

Specify dimensions

by completing the

following chart.

Call:

1-800-499-OSCO

NOTE: For sizes other than shown, please contact Osco Tech Service.

1.375" = **13** 3.375" = **33**

1.875" = **18** 3.500" = **35**

2.000" = **20** 4.000" = **40**

2.375" = **23** 4.500" = **45**

2.500" = **25** 5.000" = **50**

2.875" = 28 6.000" = 60

3.000" = **30** 7.000" = **70**

OSCO° inc.

NNERLESS MOLDING SYSTEMS

25.0

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

Specify "O" *

Specify resin to be processed.

.050 MIN.

.125 MAX.

1/2 = 5

3/4 = 7

BLS-100-G/H BORING





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)



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FBS-100-G/H HSN

The "FBS" Full Body Style HSN - 100 Series Hot Sprue Nozzle utilizes a Ø.375 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



OSCO° inc. RUNNERLESS MOLDING SYSTEMS * Note: The info formulation is safety. For s

27.0

FBS-100-G/H BORING



"H" STYLE BORING INFORMATION

"G" STYLE BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFOR	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.125	.5005	.060
.750	.230	.7505	.080
1.000	.150	1.0005	.150



RGS-100-G/H HSN

The "RGS" Recessed Gate Full Body Style HSN - 100 Series Hot Sprue Nozzle utilizes a Ø.375 resin bore. The "*G*" *Style Nozzle* is engineered for general purpose resins and the "*H*" *Style Nozzle* is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

29.0

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RGS-100-G/H BORING



"G" STYLE BORING INFORMATION



Ø4.000 Ø2.750 HEAD .218 CLEARANCE Ø2.001 +.001 -.000 WIRE SLOT C'BORE CONTACT .270 .125 CONTACT "AA" DIM. Ø1.250 NOZZLE HEATER CLEARANCE Ο 30°

"H" STYLE

BORING INFORMATION

CONTACT _____ T" DIA. LAND _____ BORE

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFOR	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.500	.125	.5005	.040 MIN.
.750	.230	.7505	.040 MIN.
1.000	.150	1.0005	.040 MIN.



AFS-200-G/H HSN

The "AFS" Absolute Flow Style HSN - 200 Series Hot Sprue Nozzle utilizes a Ø.500 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

31.0

AFS-200-G/H BORING



4



"H" STYLE BORING INFORMATION

Ø5.508

Ø3.750 HEAD CLEARANCE

3.001 +.001 -.000 CONTACT



THERMAL EXPANSION NOTE "AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.750	.187	.7505	.100
1.000	.250	1.0005	.150

BODY HEATER	CLEARANCE REQUIRED
"MC" MINI COIL HEATER	2.000 DIA.
"BH" BAND HEATER	2.500 DIA.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. .125

CONTACT

30°

CONTACT

LAND

WIRE SLOT

HEATER CLEARANCE

SEE CHART

 \bigcirc

"T" DIA

BORE

BLS-200-G/H HSN

The "BLS" Body Less Style HSN - 200 Series Hot Sprue Nozzle utilizes a Ø.500 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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BLS-200-G/H BORING





OSCO° inc.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

34.0

FBS-200-G/H HSN

The "FBS" Full Body Style HSN - 200 Series Hot Sprue Nozzle utilizes a Ø.500 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

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35.0

1-800-499-OSCO

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

Specify resin to be processed.

FBS-200-G/H BORING



"G" STYLE BORING INFORMATION



"H" STYLE

BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION		BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.750	.187	.7505	.100
1.000	.250	1.0005	.150

BODY HEATER	CLEARANCE REQUIRED
"MC" MINI COIL HEATER	2.000 DIA.
"BH" BAND HEATER	2.500 DIA.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

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RGS-200-G/H HSN

The "RGS" Recessed Gate Full Body Style HSN - 200 Series Hot Sprue Nozzle utilizes a Ø.500 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



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37.0

RGS-200-G/H BORING



"G" STYLE BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION BORING INFORMATION T" DIA. +.0005 CONTACT "T" DIA. "L" DIM. BORE -.0000 LAND .750 .187 .7505 .050 MIN 1.000 .250 1.0005 .050 MIN.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.



"H" STYLE

BORING INFORMATION

BODY HEATER	CLEARANCE REQUIRED
"MC" MINI COIL HEATER	2.000 DIA.
"BH" BAND HEATER	2.500 DIA.

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AFS-300-G/H HSN

The "AFS" Absolute Flow Style HSN - 300 Series Hot Sprue Nozzle utilizes a Ø.750 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.



NOTE: For sizes other than shown, please contact Osco Tech Service.

Specify resin to be processed.

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AFS-300-G/H BORING



"G" STYLE BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.750	.187	.7505	.100
1.000	.250	1.0005	.150

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

"H" STYLE BORING INFORMATION



BODY HEATER	CLEARANCE REQUIRED
"MC" MINI COIL HEATER	2.000 DIA.
"BH" BAND HEATER	2.500 DIA.

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FBS-300-G/H HSN

The "FBS" Full Body Style HSN - 300 Series Hot Sprue Nozzle utilizes a Ø.750 resin bore. The "G" Style Nozzle is engineered for general purpose resins and the "H" Style Nozzle is engineered for the toughest High Heat / Heat Sensitive Resins.





NOTE: For sizes other than shown, please contact Osco Tech Service.

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FBS-300-G/H BORING



"G" STYLE BORING INFORMATION



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
.750	.187	.7505	.100
1.000	.250	1.0005	.150

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

"H" STYLE BORING INFORMATION



BODY HEATER	CLEARANCE REQUIRED
"MC" MINI COIL HEATER	2.000 DIA.
"BH" BAND HEATER	2.500 DIA.

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Hot Drops for Manifold Applications



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Hot Drops for Manifold Applications

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Manifold Application Drops

OSCO Manifold systems are engineered to meet the ongoing needs of the plastic molding industry.



Anatomy of a Better Nozzle



(800) 499-OSCO · www.oscosystems.com

Faster Cycle Times

Better Gate Cosmetics

Better Temperature Control


(800) 499-OSCO · www.oscosystems.com

AFM-20-CVT

ABSOLUTE FLOW MANIFOLD APPLICATION NOZZLE SYSTEM, "AFM" SERIES 20

<u>NOZZLE DESCRIPTION</u>: The "AFM" Absolute Flow Nozzle is designed for use with an OSCO designed manifold system. The "AFM" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the nozzle tip "T" diameter witness is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
AFM-0215	1.500
AFM-0220	2.000
AFM-0225	2.500
AFM-0230	3.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

Note: If your specific application requires special sizes and/or lengths, please contact OSCO.

TIP INFO	RMATION	IATION BORING INFORM	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.375	.182"	Ø.3755	.060"
Ø.500	.182"	Ø.5005	.080"
Ø.750	.182"	Ø.7505	.080"

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

BLM-20-CVT

BODY LESS MANIFOLD APPLICATION NOZZLE SYSTEM, "BLM" SERIES 20

<u>NOZZLE DESCRIPTION:</u> The "BLM" Body Less Nozzle is designed for use with an OSCO designed manifold system. The "BLM" is engineered to feed directly into the part. It is an ideal choice when a small gate vestige is required and the circular nozzle tip witness is <u>not</u> allowable.



"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal

expansion does not need to be considered.)



CATALOG #	"A" DIM.	
BLM-0215	1.500	
BLM-0220	2.000	
BLM-0225	2.500	
BLM-0230	3.000	

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Gate "O" Diameter
- Resin to be processed

G	GATE "O" *			
MI	N.	Ø.030		
MA	X.	Ø.060		

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

FBM-20-CVT

FULL BODY MANIFOLD APPLICATION NOZZLE SYSTEM, "FBM" SERIES 20

<u>NOZZLE DESCRIPTION</u>: The "FBM" Full Body Nozzle is designed for use with an OSCO designed manifold system. The "FBM" is engineered to feed directly into the part with an unrestricted channel. It is an ideal choice when a small gate vestige and the nozzle tip "T" diameter witness is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FBM-0215	1.500
FBM-0220	2.000
FBM-0225	2.500
FBM-0230	3.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O"	
04 = Ø.040	
06 = Ø.060	

TIP INFORMATION		BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.375	.182"	Ø.3755	.060"
Ø.500	.182"	Ø.5005	.080"
Ø.750	.182"	Ø.7505	.080"

NOTE: For sizes other than shown, please contact Osco Tech Service.

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- OSCO° inc.
- Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

RGM-20-CVT

RECESSED GATE MANIFOLD APPLICATION NOZZLE SYSTEM, "RGM" SERIES 20

<u>NOZZLE DESCRIPTION</u>: The "RGM" Recessed Gate Molding Nozzle is designed for use with an OSCO designed manifold system. The "RGM" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige is required and recessed below surface "A". Each Mold Nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 ℃)

HOW TO ORDER

CATALOG #	"A" DIM.
RGM-0215	1.500
RGM-0220	2.000
RGM-0225	2.500
RGM-0230	3.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O"
04 = Ø.040
06 = Ø.060

TIP INFORMATION BORING INFORMATION			FORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.375	.182"	Ø.3755	.040 MIN.
Ø.500	.182"	Ø.5005	.040 MIN.
Ø.750	.182"	Ø.7505	.040 MIN.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

AFM-50-CVT

ABSOLUTE FLOW MANIFOLD APPLICATION NOZZLE SYSTEM, "AFM" SERIES 50

<u>NOZZLE DESCRIPTION</u>: The "AFM" Absolute Flow Nozzle is designed for use with an OSCO designed manifold system. The "AFM" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the nozzle tip "T" diameter witness is allowable.









THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	A DIM.
AFM-0520	2.000
AFM-0525	2.500
AFM-0530	3.000
AFM-0535	3.500
AFM-0540	4.000
AFM-0545	4.500
AFM-0550	5.000
AFM-0560	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.500	.160	Ø.5005	.080
Ø.750	.150	Ø.7505	.150
Ø1.000	.150	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

BLM-50-CVT

BODY LESS MANIFOLD APPLICATION NOZZLE SYSTEM, "BLM" SERIES 50

<u>NOZZLE DESCRIPTION</u>: The "BLM" Body Less Nozzle is designed for use with an OSCO designed manifold system. The "BLM" is engineered to feed directly into the part. It is an ideal choice when a small gate vestige is required and the circular nozzle tip witness is <u>not</u> allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

HOW TO ORDER

CATALOG #	"A" DIM.
BLM-0520	2.000
BLM-0525	2.500
BLM-0530	3.000
BLM-0535	3.500
BLM-0540	4.000
BLM-0545	4.500
BLM-0550	5.000
BLM-0560	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Gate "O" Diameter
- Resin to be processed

GATE "O" D	IAMETER *
MIN.	Ø.040
MAX.	Ø.080

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

FBM-50-CVT

FULL BODY MANIFOLD APPLICATION NOZZLE SYSTEM, "FBM" SERIES 50

<u>NOZZLE DESCRIPTION</u>: The "FBM" Full Body Nozzle is designed for use with an OSCO designed manifold system. The "FBM" is engineered to feed directly into the part with an unrestricted channel. It is an ideal choice when a small gate vestige and the nozzle tip "T" diameter witness is allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
FBM-0520	2.000
FBM-0525	2.500
FBM-0530	3.000
FBM-0535	3.500
FBM-0540	4.000
FBM-0545	4.500
FBM-0550	5.000
FBM-0560	6.000

Specify:

- Nozzle Catalog Number
 "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O" DIAMETER
04 = Ø.040
06 = Ø.060
08 = Ø.080

TIP INFO	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.500	.160	Ø.5005	.080
Ø.750	.160	Ø.7505	.150
Ø1.000	.150	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

RGM-50-CVT

RECESSED GATE MANIFOLD APPLICATION NOZZLE SYSTEM, "RGM" SERIES 50

NOZZLE DESCRIPTION: The "RGM" Recessed Gate Molding Nozzle is designed for use with an OSCO designed manifold system. The "RGM" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige is required and recessed below surface "A". Each Mold Nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.





FULL TIP RADIUS



FRACTIONAL TIP RADIUS



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

CATALOG #	"A" DIM.
RGM-0520	2.000
RGM-0525	2.500
RGM-0530	3.000
RGM-0535	3.500
RGM-0540	4.000
RGM-0545	4.500
RGM-0550	5.000
RGM-0560	6.000

HOW TO ORDER

GATE "O" DIAMETER Nozzle Catalog Number **04** = Ø.040 **06** = Ø.060 **08** = Ø.080

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.500	.160	Ø.5005	.040 MIN.
Ø.750	.160	Ø.7505	.040 MIN.
Ø1.000	.150	Ø1.0005	.040 MIN.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

Specify:

• "A" Dimension

• Gate "O" Diameter • Resin to be processed

• "T" Diameter

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

AFM-100-CVT

ABSOLUTE FLOW MANIFOLD APPLICATION NOZZLE SYSTEM, "AFM" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "AFM" Absolute Flow Nozzle is designed for use with an OSCO designed manifold system. The "AFM" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the nozzle tip "T" diameter witness is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
AFM-1020	2.000
AFM-1025	2.500
AFM-1030	3.000
AFM-1035	3.500
AFM-1040	4.000
AFM-1045	4.500
AFM-1050	5.000
AFM-1060	6.000
AFM-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

OSCO° inc.

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE ⁰⁰⁰⁰	CONTACT LAND
Ø.500	.125"	Ø.5005	.060"
Ø.750	.230"	Ø.7505	.080"
Ø1.000	.150"	Ø1.0005	.150"

NOTE: For sizes other than shown, please contact Osco Tech Service.

BLM-100-CVT

BODY LESS MANIFOLD APPLICATION NOZZLE SYSTEM, "BLM" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "BLM" Body Less Nozzle is designed for use with an OSCO designed manifold system. The "BLM" is engineered to feed directly into the part. It is an ideal choice when a small gate vestige is required and the circular nozzle tip witness is <u>not</u> allowable.



"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

HOW TO ORDER

CATALOG #	"A" DIM.
BLM-1020	2.000
BLM-1025	2.500
BLM-1030	3.000
BLM-1035	3.500
BLM-1040	4.000
BLM-1045	4.500
BLM-1050	5.000
BLM-1060	6.000
BLM-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Gate "O" Diameter
- Resin to be processed

GATE "O" D	IAMETER *
MIN.	Ø.050
MAX.	Ø.125

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBM-100-CVT

FULL BODY MANIFOLD APPLICATION NOZZLE SYSTEM, "FBM" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "FBM" Full Body Nozzle is designed for use with an OSCO designed manifold system. The "FBM" is engineered to feed directly into the part with an unrestricted channel. It is an ideal choice when a small gate vestige and the nozzle tip "T" diameter witness is allowable.



CATALOG # "A" DIM. FBM-1020 2.000 FBM-1025 2.500 FBM-1030 3.000 FBM-1035 3.500 FBM-1040 4.000 FBM-1045 4.500 FBM-1050 5.000 FBM-1060 6.000 FBM-1070 7.000

HOW TO ORDER

- Specify:Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

OSCO° inc.

$05 = \emptyset.050$ $08 = \emptyset.080$ $12 = \emptyset.125$	GATE "O" DIAMETER
08 = Ø.080	05 = Ø.050
12 – Ø 125	08 = Ø.080
12 = 0.123	12 = Ø.125

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.500	.125	Ø.5005	.060
Ø.750	.230	Ø.7505	.080
Ø1.000	.150	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

RGM-100-CVT

RECESSED GATE MANIFOLD APPLICATION NOZZLE SYSTEM, "RGM" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "RGM" Recessed Gate Molding Nozzle is designed for use with an OSCO designed manifold system. The "RGM" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige is required and recessed below surface "A". Each Mold Nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
RGM-1020	2.000
RGM-1025	2.500
RGM-1030	3.000
RGM-1035	3.500
RGM-1040	4.000
RGM-1045	4.500
RGM-1050	5.000
RGM-1060	6.000
RGM-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O" DIAMETER
05 = Ø.050
08 = Ø.080
12 = Ø.125

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.500	.125	Ø.5005	.040 MIN.
Ø.750	.230	Ø.7505	.040 MIN.
Ø1.000	.150	Ø1.0005	.040 MIN.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

AFM-200-CVT

ABSOLUTE FLOW MANIFOLD APPLICATION NOZZLE SYSTEM, "AFM" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "AFM" Absolute Flow Nozzle is designed for use with an OSCO designed manifold system. The "AFM" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the nozzle tip "T" diameter witness is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

CATALOG #	"A" DIM.
AFM-2030	3.000
AFM-2040	4.000
AFM-2050	5.000
AFM-2060	6.000
AFM-2070	7.000
AFM-2080	8.000
AFM-2090	9.000
AFM-2100	10.000

HOW TO ORDER

- Specify:
- Nozzle Catalog Number
- "A" Dimension"T" Diameter
- Resin to be processed

OSCO° inc.

MOLDI

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.750	.187"	Ø.7505	.100"
Ø1.000	.250"	Ø1.0005	.150"

NOTE: For sizes other than shown, please contact Osco Tech Service.

BLM-200-CVT

BODY LESS MANIFOLD APPLICATION NOZZLE SYSTEM, "BLM" SERIES 200

<u>NOZZLE DESCRIPTION:</u> The "BLM" Body Less Nozzle is designed for use with an OSCO designed manifold system. The "BLM" is engineered to feed directly into the part. It is an ideal choice when a small gate vestige is required and the circular nozzle tip witness is <u>not</u> allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

CATALOG #	"A" DIM.
BLM-2030	3.000
BLM-2040	4.000
BLM-2050	5.000
BLM-2060	6.000
BLM-2070	7.000
BLM-2080	8.000
BLM-2090	9.000
BLM-2100	10.000

HOW TO ORDER

- Specify:Nozzle Catalog Number
- "A" Dimension
- Gate "O" Diameter
- Resin to be processed

GATE "O" DIAMETER *		
MIN.	Ø.080	
MAX.	Ø.200	

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

FBM-200-CVT

FULL BODY MANIFOLD APPLICATION NOZZLE SYSTEM, "FBM" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "FBM" Full Body Nozzle is designed for use with an OSCO designed manifold system. The "FBM" is engineered to feed directly into the part with an unrestricted channel. It is an ideal choice when a small gate vestige and the nozzle tip "T" diameter witness is allowable.



HOW TO ORDER



- Specify:
- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

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GATE "O" DIAMETER
12 = Ø.120
15 = Ø.150

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.750	.187"	Ø.7505	.100"
Ø1.000	.250"	Ø1.0005	.150"

NOTE: For sizes other than shown, please contact Osco Tech Service.

RGM-200-CVT

RECESSED GATE MANIFOLD APPLICATION NOZZLE SYSTEM, "RGM" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "RGM" Recessed Gate Molding Nozzle is designed for use with an OSCO designed manifold system. The "RGM" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige is required and recessed below surface "A". Each Mold Nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

CATALOG #	"A" DIM.
RGM-2030	3.000
RGM-2040	4.000
RGM-2050	5.000
RGM-2060	6.000
RGM-2070	7.000
RGM-2080	8.000
RGM-2090	9.000
BGM-2100	10,000

HOW TO ORDER

- Specify:
- Nozzle Catalog Number"A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O" DIAMETER
12 = Ø.120
15 = Ø.150

TIP INFO	RMATION	BORING INI	FORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.750	.187"	Ø.7505	.050 MIN.
Ø1.000	.250"	Ø1.0005	.050 MIN.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

AFM-300-CVT

ABSOLUTE FLOW MANIFOLD APPLICATION NOZZLE SYSTEM, "AFM" SERIES 300

<u>NOZZLE DESCRIPTION</u>: The "AFM" Absolute Flow Nozzle is designed for use with an OSCO designed manifold system. The "AFM" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the nozzle tip "T" diameter witness is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

CATALOG #	"A" DIM.	
AFM-3030	3.000	
AFM-3040	4.000	
AFM-3050	5.000	
AFM-3060	6.000	
AFM-3070	7.000	
AFM-3080	8.000	
AFM-3090	9.000	
AFM-3100	10.000	

HOW TO ORDER

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

OSCO° inc.

TIP INFO	RMATION	BORING INFORMATION		
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND	
Ø.750	.187"	Ø.7505	.100"	
Ø1.000	.250"	Ø1.0005	.150"	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBM-300-CVT

FULL BODY MANIFOLD APPLICATION NOZZLE SYSTEM, "FBM" SERIES 300

<u>NOZZLE DESCRIPTION</u>: The "FBM" Full Body Nozzle is designed for use with an OSCO designed manifold system. The "FBM" is engineered to feed directly into the part with an unrestricted channel. It is an ideal choice when a small gate vestige and the nozzle tip "T" diameter witness is allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
FBM-3030	3.000
FBM-3040	4.000
FBM-3050	5.000
FBM-3060	6.000
FBM-3070	7.000
FBM-3080	8.000
FBM-3090	9.000
FBM-3100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Gate "O" Diameter
- Resin to be processed

GATE "O" DIA.
15 = Ø.150
18 = Ø.187
25 = Ø.250

OSCO° inc.

TIP INFO	RMATION	BORING INFORMATION			
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE ⁰⁰⁰⁰	CONTACT LAND		
Ø1.000	.250"	Ø1.0005	.150"		

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.



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TOP OF MOLD VIEW FROM PLA 2000 5000 Fill

Minimal Residence Time

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Temperature Control at Each Gate

Multiple Gate Nozzle - (MGN)



DIRECT FEED MGN



IN-LINE MGN

MANIFOLD FEED MGN SYSTEM



Temperature Control Each Gate



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Multiple Gate Nozzle System, "MGN" SERIES 1000

<u>NOZZLE DESCRIPTION</u>: The "MGN" 1000 Series Multiple Gate Nozzle features up to four individually controlled probes positioned on a 1.000" "D" Diameter. The "MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-716 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1000 MGN is four (4).



"A" DIM = 3.000

"A" DIM = 3.500

"A" DIM = 4.000

BODY HEATER

PART NUMBER

MBHT-2515

MBHT-2515

MBHT-2515

MAX. NUMBER

OF PROBES

4

3

3

HOW TO ORDER

PROBE

PART NUMBER

PROBE-MGN-300

PROBE-MGN-350

PROBE-MGN-400

NOZZLE

'A'' DIM.

3.000

3.500

4.000

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
- Seal Ring Pocket for Manifold Application

Resin to be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

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CATALOG

NUMBER

MGN-1030

MGN-1035

MGN-1040

ASSEMBLY INCLUDES

PROBE HEATER

PART NUMBER

TCH-2300-90

TCH-2350-90

TCH-2400-90

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

Multiple Gate Nozzle System, "MGN" SERIES 1500

<u>NOZZLE DESCRIPTION</u>: The "MGN" 1500 Series Multiple Gate Nozzle features up to six individually controlled probes positioned on a 1.500" "D" Diameter. The "MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-716 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1500 MGN is six (6).



"A" DIM = 3.000

"A" DIM = 3.500

"A" DIM = 4.000

HOW TO ORDER

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application - Seal Ring Pocket for Manifold Application
- Resin to be Processed

CATALOG	NOZZLE	ASSEMBLY INCLUDES					
NUMBER "A" DIM.		PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES		
MGN-1530	3.000	PROBE-MGN-300	TCH-2300-90	MBHT-2515	6		
MGN-1535	3.500	PROBE-MGN-350	TCH-2350-90	MBHT-2515	6		
MGN-1540	4.000	PROBE-MGN-400	TCH-2400-90	MBHT-2515	6		

OSCO° inc.

MOLDI

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

Multiple Gate Nozzle System, "MGN" SERIES 1700

<u>NOZZLE DESCRIPTION</u>: The "MGN" 1700 Series Multiple Gate Nozzle features up to six individually controlled probes positioned on a 1.750" "D" Diameter. The "MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-916 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 1700 MGN is six (6).



"A" DIM = 3.000

"A" DIM = 3.500

"A" DIM = 4.000

HOW TO ORDER

PROBE

PART NUMBER

PROBE-MGN-300

PROBE-MGN-350

PROBE-MGN-400

NOZZLE

"A" DIM.

3.000

3.500

4.000

CATALOG

NUMBER

MGN-1730

MGN-1735

MGN-1740

OSCO° inc.

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
 Seal Ring Pocket for Manifold Application

Resin to be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

PROBE HEATER

PART NUMBER

TCH-2300-90

TCH-2350-90

TCH-2400-90

ASSEMBLY INCLUDES

BODY HEATER

PART NUMBER

MBHT-2715

MBHT-2715

MBHT-2715

MAX. NUMBER

OF PROBES

6

6

6

3.0

Multiple Gate Nozzle System, "MGN" SERIES 2000

<u>NOZZLE DESCRIPTION</u>: The "MGN" 2000 Series Multiple Gate Nozzle features up to eight individually controlled probes positioned on a 2.000" "D" Diameter. The "MGN" Nozzle offers design flexibility with three standard "A" length dimensions, a 1/2" or 3/4" spherical radius for direct feed applications, or a pocket for an SR-916 seal ring for use with a manifold.

NOTE: Maximum number of probes for a Series 2000 MGN is eight (8).



"A" DIM = 3.000

"A" DIM = 3.500

"A" DIM = 4.000

HOW TO ORDER

Specify:

- Nozzle Catalog Number
- "D" Diameter
- Number of Probes
- Application Pocket
- 1/2" or 3/4" Radius for Direct feed Application
- Seal Ring Pocket for Manifold Application
- Resin to be Processed

		ASSEMBLY INCLUDES				
NUMBER	"A" DIM.	PROBE PART NUMBER	PROBE HEATER PART NUMBER	BODY HEATER PART NUMBER	MAX. NUMBER OF PROBES	
MGN-2030	3.000	PROBE-MGN-300	TCH-2300-90	MBHT-3015	8	
MGN-2035	3.500	PROBE-MGN-350	TCH-2350-90	MBHT-3015	8	
MGN-2040	4.000	PROBE-MGN-400	TCH-2400-90	MBHT-3015	8	

OSCO° inc.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

NOTE: For sizes other than shown, please contact Osco Tech Service.

4.0

MGN - BORING

Multiple Gate Nozzle System, "MGN" SERIES / MACHINING DETAILS



*NOTE: MINIMUM GATE DIAMETERS ARE NOT ACCEPTABLE WITH ALL MATERIALS OR APPLICATIONS.

HOW TO ORDER

NOZZLE "A" DIM.	NOZZLE XT DIM.	GATE WELL DEPTH +.000 001	PROBE BORE DIA.
3.000	.427	.437	Ø.500
3.500	.927	.937	Ø.625
4.000	1.427	1.437	Ø.625

					_				
GATE "O" DIA. *		OSCO	NC. MGN N	OZZLE ASS	EMBLY BOR			MAXIMUM OF GATE	NUMBER PROBES
		"D" DIA.	"P" DIA.	"C" DIA.	"W" DIM.	"X" DIM.	"Y" DIM.	"A" = 3	"A" > 3
MIN.	Ø.025	1.000	2.751	3.125	.500	.900	.575	4	3
MAX.	Ø.125	1.500	2.751	3.125	.750	.900	.575	6	6
		1.750	3.000	3.375	.875	1.050	.550	6	6
		2.000	3.250	3.625	1.000	1.195	.550	8	8

NOTE: For sizes other than shown, please contact Osco Tech Service.



G.

MGN - BUILD YOUR OWN

Multiple Gate Nozzle System, "MGN" SERIES Build Your Own

<u>NOZZLE DESCRIPTION</u>: Standard components such as the hardened probe, thermocouple controlled probe heater, and probe seals can be designed into a customized main body with a "D" diameter to suit the applications. "D" diameters to suit the applications. "D" diameters range from 1.000" to 8.000". The number of gates can be as high as 12. Available in three (3) standard lengths.

NOTE: Contact OSCO for maximum number of probes and "D" diameter suitability to your application.



HOW TO ORDER

TE "O" Ø.025 Ø.125

NOZZLE	NOZZLE	GATE WELL	PROBE		G	
"A" DIM.	X.T. DIM.	DEPTH +.000 001	BORE DIA.		MIN.	
3.000	.427	.437	Ø.500		MAX.	
3.500	.927	.937	Ø.625			
4.000	1.427	1.437	Ø.625			

OSCO INC. MGN NOZZLE ASSEMBLY BORING INFORMATION							MAXIMUM NUMBER OF GATE PROBES	
"D" DIA.	"P" DIA.	"C" DIA.	"W" DIM.	"X" DIM.	"Y" DIM.	"A" = 3	"A" > 3	
2.250	3.501	3.875	1.125	1.375	.575	9	8	
2.500	3.751	4.125	1.250	1.500	.575	10	9	
2.750	4.001	4.375	1.375	1.625	.525	12	10	
3.000	4.251	4.625	1.500	1.617	.670	13	11	
3.250	4.501	4.875	1.625	1.890	.500	14	12	
3.500	4.751	5.125	1.750	1.848	.765	15	13	
3.750	5.001	5.375	1.875	2.156	.500	16	14	
4.000	5.251	5.625	2.000	2.221	.625	17	15	

OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.

IMGN

Inline Multiple Gate Nozzle System, "IMGN" SERIES

<u>NOZZLE DESCRIPTION:</u> OSCO's "IMGN" Inline Multiple Gate Nozzle utilizes standard probes, probe heaters, and probe seals oriented into an 'Inline" gating pattern. Available with 4 or 8 gate probes, the IMGN offers balance, minimal residence time and probe length flexibility.

NOTE: Contact OSCO for suitability to your application.



INLINE MULTIPLE GATE NOZZLES IMGN-4



INLINE MULTIPLE GATE NOZZLES IMGN-8







MGN HYBRID

ABSOLUTE FLOW

VARIOUS "O" AND "T' DIMENSIONS AVAILABLE STANDARD FLOW RADIUS FLOW HI-FLOW

EXTRA STOCK

OPTIONS AVAILABLE

FULL BODY



Multiple Gate Nozzle System, "MGN HYBRID"

NOZZLE DESCRIPTION: The "MGN" 20 Series Multiple Gate Hybrid Nozzle couples the MGN performance with the versatility of our 20 Series convertible nozzles and tips. The "MGN" Hybrid Nozzle offers balance, minimal residence time, and the design flexibility with our 20 Series nozzles. The "MGN" Hybrid is the unique solution for various applications.

GNT OR GNF NEEDLE **OPTIONS AVAILABLE**

TIP STYLES PLEASE SEE

"T" DIM.





DIMENSIONS AVAILABLE GNT OR GNF NEEDLE OPTIONS

& EXTRA STOCK

OPTION AVAILABLE

BODYLESS

***FOR MORE INFORMATION ON** THE CVT-020 CATALOG SECTION

HOW TO ORDER

'A" DIMENSION

1.500

2.000

2.500

3.000

Specify:

- "D" Diameter
- Number of Drops
- "A" Length of Drops
- Application Pocket
- 1/2" or 3/4" Radius
- Tip Style
- "O", "T", Optional Extra Stock
- Resin to be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

MAX. NUMBER

OF DROPS

4

5

6

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

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"D" DIMENSION

1.500

1.750

2.000



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Flow Control Nozzles (FCN)

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 \Rightarrow Gear Box Boring

top of mold View from plat

Independent Nozzle Control

Optimizes Fill Rate

Just Fantastic!



Flow Control Nozzle - (FCN)

OSCO's patented Flow Control System "FCN" is so simple and so effective, it's just fantastic! The "FCN" allows the molder flexibility in the cavity's filling pattern which previously did not exist without manipulating heat, gate sizes or runner diameters. Now from press side, during the initial mold tryout, the optimum fill rate can be achieved through the manual Flow Control System.



Increase (or) Decrease Resin Output through Each Nozzle

<u>WITHOUT</u> - Raising or Lowering Temperatures - Opening or Welding Gate Diameters

Adjusting the Fill Rate

- 1. Injecting a Short Shot into the Cavity (or Cavities).
- 2. Inspecting the fill pattern.
- 3. Adjusting the Flow Valve for Optimum Fill Rate into Each Cavity.

Family Mold -Battery Case and Lid



Family Mold -Automotive Components

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Worm Gear Assembly

 The gear box provides a 50:1 ratio between the control rod and the valve pin. One revolution of the rod will advance the pin .002" into or out of the valve seat the nozzle tip. The gear box assembly easily fits into a clearance pocket in the mold's top clamp plate.



Tip Styles

Absolute Flow

Full Body

Field Serviceable



FCA-50

FLOW CONTROL ABSOLUTE FLOW NOZZLE SYSTEM, "FCA" SERIES 50

<u>NOZZLE DESCRIPTION</u>: The "FCA" Absolute Flow Type Flow Control Nozzle is designed for use with an OSCO Manifold System. The "FCA" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the circular nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.		
FCA-0520	2.000		
FCA-0525	2.500		
FCA-0530	3.000		
FCA-0535	3.500		
FCA-0540	4.000		
FCA-0545	4.500		
FCA-0550	5.000		
FCA-0560	6.000		

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

	RMATION	BORING INFORMATION		
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND	
Ø.500	.160	Ø.5005	.080	
Ø.750	.150	Ø.7505	.150	
Ø1.000	.150	Ø1.0005	.150	

NOTE: For sizes other than shown, please contact Osco Tech Service.

- OSCO° inc.
- * Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.
FCB-50

FLOW CONTROL BODY LESS NOZZLE SYSTEM, "FCB" SERIES 50

<u>NOZZLE DESCRIPTION</u>: The "FCB" Body Less Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCB" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is <u>not</u> allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

HOW TO ORDER

CATALOG #	"A" DIM.
FCB-0520	2.000
FCB-0525	2.500
FCB-0530	3.000
FCB-0535	3.500
FCB-0540	4.000
FCB-0545	4.500
FCB-0550	5.000
FCB-0560	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Resin to be processed

GATE "O" D	IAMETER *
MIN.	Ø.040
MAX.	Ø.080

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

FCF-50

FLOW CONTROL FULL BODY NOZZLE SYSTEM, "FCF" SERIES 50

NOZZLE DESCRIPTION: The "FCF" Full Body Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCF" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG # "A" DIM. FCF-0520 2.000 FCF-0525 2.500 FCF-0530 3.000 FCF-0535 3.500 FCF-0540 4.000 FCF-0545 4.500

5.000

6.000

- Specify: Nozzle Catalog Number
- "A" Dimension
- "O" Diameter
- "T" Diameter
- Resin to be processed

GATE "O" DIAMETER
04 = Ø.040
06 = Ø.060
08 = Ø.080

TIP INFORMATION		BORING INI	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND
Ø.500	.160	Ø.5005	.080
Ø.750	.160	Ø.7505	.150
Ø1.000	.150	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

- OSCO° inc. MOLD
- * Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

FCF-0550 FCF-0560

FCA-100

FLOW CONTROL ABSOLUTE FLOW NOZZLE SYSTEM, "FCA" SERIES 100

NOZZLE DESCRIPTION: The "FCA" Absolute Flow Type Flow Control Nozzle is designed for use with an OSCO Manifold System. The "FCA" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the circular nozzle tip "T" diameter witness mark is allowable.



"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FCA-1020	2.000
FCA-1025	2.500
FCA-1030	3.000
FCA-1035	3.500
FCA-1040	4.000
FCA-1045	4.500
FCA-1050	5.000
FCA-1060	6.000
FCA-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- Resin to be processed

TIP INFO	RMATION	BORING INI	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.500	.125	Ø.5005	.060
Ø.750	.230	Ø.7505	.080
Ø1.000	.187	Ø1.0005	.080

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FCB-100

FLOW CONTROL BODY LESS NOZZLE SYSTEM, "FCB" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "FCB" Body Less Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCB" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is <u>not</u> allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

HOW TO ORDER

*

CATALOG #	"A" DIM.
FCB-1020	2.000
FCB-1025	2.500
FCB-1030	3.000
FCB-1035	3.500
FCB-1040	4.000
FCB-1045	4.500
FCB-1050	5.000
FCB-1060	6.000
FCB-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Resin to be processed

OSCO° inc.

GATE "O" DIAMETER *		
MIN.	Ø.050	
MAX.	Ø.125	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FCF-100

FLOW CONTROL FULL BODY NOZZLE SYSTEM, "FCF" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "FCF" Full Body Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCF" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FCF-1020	2.000
FCF-1025	2.500
FCF-1030	3.000
FCF-1035	3.500
FCF-1040	4.000
FCF-1045	4.500
FCF-1050	5.000
FCF-1060	6.000
FCF-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Diameter
- "T" Diameter
- Resin to be processed

GATE "O" DIAMETER
05 = Ø.050
08 = Ø.080
12 = Ø 125

TIP INFORMATION		BORING INI	FORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.500	.160	Ø.5005	.080
Ø.750	.150	Ø.7505	.150
Ø1.000	.150	Ø1.0005	.150

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

FCA-200

FLOW CONTROL ABSOLUTE FLOW NOZZLE SYSTEM, "FCA" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "FCA" Absolute Flow Type Flow Control Nozzle is designed for use with an OSCO Manifold System. The "FCA" is engineered to feed directly into the part or runner with an unrestricted channel, permitting faster fills and better quality molded parts. It is an ideal choice when a small sprue vestige and the circular nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FCA-2040	4.000
FCA-2050	5.000
FCA-2060	6.000
FCA-2070	7.000
FCA-2080	8.000
FCA-2090	9.000
FCA-2100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- · Resin to be processed

OSCO° inc.

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.750	.187	Ø.7505	.100
Ø1.000	.250	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

FCB-200

FLOW CONTROL BODY LESS NOZZLE SYSTEM, "FCB" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "FCB" Body Less Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCB" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is <u>not</u> allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

HOW TO ORDER

CATALOG #	"A" DIM.
FCB-2040	4.000
FCB-2050	5.000
FCB-2060	6.000
FCB-2070	7.000
FCB-2080	8.000
FCB-2090	9.000
FCB-2100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- Resin to be processed

GATE "O" DIAMETER *		
MIN.	Ø.080	
MAX.	Ø.200	

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained. NOTE: For sizes other than shown, please contact Osco Tech Service.

FCF-200

FLOW CONTROL FULL BODY NOZZLE SYSTEM, "FCF" SERIES 200

NOZZLE DESCRIPTION: The "FCF" Full Body Type Flow Control Nozzle is designed for use with an OSCO manifold system. The "FCF" is engineered to feed directly into the molded part. It is an ideal choice when a small gate vestige and the circular nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FCF-2040	4.000
FCF-2050	5.000
FCF-2060	6.000
FCF-2070	7.000
FCF-2080	8.000
FCF-2090	9.000
FCF-2100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Diameter
- "T" Diameter
- Resin to be processed

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GATE "O" DIAMETER	TIF
12 = Ø.120	"T'
15 = Ø.150	·
	6

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND
Ø.750	.187	Ø.7505	.100
Ø1.000	.250	Ø1.0005	.150

NOTE: For sizes other than shown, please contact Osco Tech Service.

9.0

GEAR BOX - BORING



SECTION A-A



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Single Cavity Valve Gate

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TOP OF MOLD VIEW FROM PLA

Simplified

Simplified

Simplified

Operation

Adjustment

Installation

Single Cavity Valve Gate - (SCV)



- Install Nozzle(s) into mold.
- Insert Actuating Rod(s) from side of mold, into Nozzle(s) (Making sure that the tapped hole(s) are facing outward.)
- Install Locating Ring and screws into Mold.



Simplicity Through Thoughtful Engineering



Setting the Valve Pin is as easy as:

- 1. Engergize Cylinder
- 2. Loosen the S.H.C.S. (Socket Head Cap Screw)
- 3. Pivot Cylinder to Achieve best possible Gate Cosmetics

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om

SCB-100

Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "SCB" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 100 Series "SCB" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.188" flow channels with up to a Ø.080" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCB" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is not allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
SCB-1018	1.875
SCB-1023	2.375
SCB-1028	2.875
SCB-1033	3.375

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

GATE "O" DIAMETER *		
MIN.	Ø.050	
MAX.	Ø.080	

NOTE: For sizes other than shown, please contact Osco Tech Service.

SCB-100 BORING

Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 100 - Machining Details



OSCO° inc.

SCF-100

Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 100

<u>NOZZLE DESCRIPTION</u>: The "SCF" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 100 Series "SCF" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.188" flow channels with up to a Ø.080" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCF" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
SCF-1018	1.875
SCF-1023	2.375
SCF-1028	2.875
SCF-1033	3.375

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO°
0000

inc.

GATE "O" DIAMETER		
.050	.080	

TIP INFORMATION									
"T" DIA.	"L" DIM.								
Ø.500	.160								
Ø.750	.150								
Ø1.000	.150								

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

6°

SCF-100 BORING

Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 100 - Machining Details



TIP INFO	RMATION	BORING INFORMATION							
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *						
Ø.500	.160	Ø.5005	.080						
Ø.750	.150	Ø.7505	.187						
Ø1.000	.150	Ø1.0005	.250						

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)





Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "SCB" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 200 Series "SCB" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.375" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCB" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is not allowable.





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)

HOW TO ORDER

CATALOG #	"A" DIM.
SCB-2025	2.500
SCB-2030	3.000
SCB-2035	3.500
SCB-2040	4.000
SCB-2045	4.500
SCB-2050	5.000
SCB-2060	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO[°] inc.

GATE "O" D	GATE "O" DIAMETER *										
MIN.	Ø.062										
MAX.	Ø.250										

SCB-200 BORING

Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 200 - Machining Details



OSCO° inc.



Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 200

NOZZLE DESCRIPTION: The "SCF" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 200 Series "SCF" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.625" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCF" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
SCF-2025	2.500
SCF-2030	3.000
SCF-2035	3.500
SCF-2040	4.000
SCF-2045	4.500
SCF-2050	5.000
SCF-2060	6.000

Specify:	
opeeny.	

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service. OSCO° inc.

-								
GATE	GATE "O" DIAMETER							
.062	.125	.250						

SCF-200 BORING

Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 200 - Machining Details



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .0000633 X (PROCESSING TEMP. - 68 °F)

TIP INFO	RMATION	BORING INFORMATION							
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *						
Ø.750	.230	Ø.7505	.187						
Ø1.000	.359	Ø1.0005	.250						

SCBL-200

Self Contained Body Less Low Profile Valve Gate Nozzle System, "SCBL" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "SCBL" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 200 Series "SCBL" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.375" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCBL" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is <u>not</u> allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
SCBL-2045	4.500
SCBL-2050	5.000
SCBL-2055	5.500
SCBL-2060	6.000
SCBL-2065	6.500

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.

SCBL-200 BORING

Self Contained Body Less Low Profile Valve Gate Nozzle System, "SCBL" SERIES 200 - Machining Details



OSCO° inc.

SCFL-200

Self Contained Full Body Low Profile Valve Gate Nozzle System, "SCFL" SERIES 200

NOZZLE DESCRIPTION: The "SCFL" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 200 Series "SCFL" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.375" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCFL" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

CATALOG #	"A" DIM.
SCFL-2045	4.500
SCFL-2050	5.000
SCFL-2055	5.500
SCFL-2060	6.000
SCFL-2065	6.500

Specify:

Nozzle Catalog Number

HOW TO ORDER

- "A" Dimension
- "T" Tip Diameter
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.



* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

TIP INFORMATION

"T" DIA

Ø.750

"L" DIM.

.250"

GATE "O" DIAMETER

.125

.250

.062

OSCO° inc.

SCFL-200 BORING

Self Contained Full Body Low Profile Valve Gate Nozzle System, "SCFL" SERIES 200 - Machining Details



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"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFO	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND *
Ø.750	.230	Ø.7505	.187

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

OSCO° inc.

SCB-400

Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 400

<u>NOZZLE DESCRIPTION</u>: The "SCB" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 400 Series "SCB" Nozzle is designed to fill large parts. The nozzle utilizes Ø.437" flow channels with up to a Ø.312" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCB" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is <u>not</u> allowable.



 $\label{eq:expansion} \begin{array}{l} \texttt{EXPANSION} = \texttt{"A"} \ \texttt{DIM. X. 00000633 X} \ (\texttt{PROCESSING TEMP. - 68 °F)} \\ (\texttt{DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION} \\ \texttt{DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)} \end{array}$

HOW TO ORDER

CATALOG #	"A" DIM.
SCB-4030	3.000
SCB-4035	3.500
SCB-4040	4.000
SCB-4045	4.500
SCB-4050	5.000
SCB-4060	6.000
SCB-4070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

GATE "O" DIAMETER *

Ø.125

Ø.312

MIN.

MAX.

* GATE "O" DIA.

SCB-400 BORING

Self Contained Body Less Valve Gate Nozzle System, "SCB" SERIES 400 - Machining Details



OSCO° inc.

SCF-400

Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 400

NOZZLE DESCRIPTION: The "SCF" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 400 Series "SCF" Nozzle is designed to fill large parts. The nozzle utilizes Ø.437" flow channels with up to a Ø.313" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCF" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

NOTE: For sizes other than shown, please contact Osco Tech Service.

"R" Radius Pocket

Resin To Be Processed

OSCO° inc.

5.000

6.000

7.000

SCF-4050

SCF-4060

SCF-4070

SCF-400 BORING

Self Contained Full Body Valve Gate Nozzle System, "SCF" SERIES 400 - Machining Details



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.



Ø.750

Ø1.000

230

.359

Ø 7505

Ø1.0005

187

.250

SCFL-400

Self Contained Low Profile Gate Nozzle System, "SCFL" SERIES 400 - Machining Details

<u>NOZZLE DESCRIPTION</u>: The "SCFL" Nozzle Systems are furnished with a locating ring (Ø3.990) and engineered for direct feed applications. The 400 Series "SCFL" Nozzle is designed to fill large parts. The nozzle utilizes Ø.437" flow channels with up to a Ø.313" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCFL" Nozzle is an ideal choice when the low profile tip is desireable and the nozzle tip "T" diameter witness mark is allowable.



"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.	
SCFL-4045	4.500	
SCFL-4050	5.000	
SCFL-4055	5.500	
SCFL-4060	6.000	
SCFL-4070	7.000	

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Tip Diameter
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

OSCO° inc.

NERLESS MOLDING

NOTE: For sizes other than shown, please contact Osco Tech Service.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

GATE "O" DIA.

GATE "O" DIAMETER			
.125	.250	.312	

TIP INFORMATION		
"T" DIA.	"L" DIM.	
Ø1.000	.359	

TRAVEL

SCFL-400 BORING

Self Contained Low Profile Gate Nozzle System, "SCFL" SERIES 400 - Machining Details



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - $68 \,^\circ$ F)

TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *
Ø1.000	.359	Ø1.0005	.250

DSB-500

Self Contained Dual Shaft Body Less Valve Gate Nozzle System, Single Application

<u>NOZZLE DESCRIPTION</u>: The "DSB-500" Nozzle Assembly is furnished with a heated radius cap and locating ring (Ø3.990) and engineered for direct-feed applications. The 500 series "DSB" is designed to fill large size parts. The "DSB" Nozzle is a robust valve gate system engineered for the most demanding applications. Available with up to a Ø.312 gate diameter, the "DSB" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is <u>not</u> allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
DSB-5025	2.500
DSB-5030	3.000
DSB-5035	3.500
DSB-5040	4.000
DSB-5045	4.500
DSB-5050	5.000
DSB-5060	6.000

Specify:

•

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket (1/2" or 3/4")
- Resin To Be Processed

OSCO° inc.

RUNNERLESS MOLDING SYSTEMS

NOTE: For sizes other than shown, please contact Osco Tech Service.

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* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

GATE "O" DIAMETERS

.125 MIN. .312 MAX.

DSB-500 BORING

Self Contained Dual Shaft Body Less Valve Gate Nozzle System, Single Application - Machining Details



DSF-500

Self Contained Dual Shaft Full Body Valve Gate Nozzle System, Single Application

<u>NOZZLE DESCRIPTION</u>: The "DSF-500" Nozzle Assembly is furnished with a heated radius cap insert and locating ring (Ø3.990) and engineered for direct-feed applications. The 500 series "DSF" nozzle is designed to fill large size parts. The DSF Nozzle is a robust valve gate system engineered for the most demanding applications. Available with up to a Ø.312 gate diameter, the "DSF" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



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CATALOG #	"A" DIM.
DSF-5025	2.500
DSF-5030	3.000
DSF-5035	3.500
DSF-5040	4.000
DSF-5045	4.500
DSF-5050	5.000
DSF-5060	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "T" Tip Diameter
- "C" Dimension
- "R" Radius Pocket (1/2" or 3/4")

OSCO° inc.

Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

.312

TIP INFORMATION

"L" DIM.

.359

.359

"T" DIA.

Ø1.000

Ø1.250

GATE "O" DIAMETERS

.250

125

DSF-500 BORING

Self Contained Dual Shaft Full Body Valve Gate Nozzle System, Single Application - Machining Details



	TIP INFORMATION		BORING INFORMATION		
	"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND	
ſ	Ø1.000	.359	Ø1.0005	.150	
	Ø1.250	.359	Ø1.2505	.150	

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

DSL-500

Self Contained Dual Shaft Low Profile Valve Gate Nozzle System, Single Application

NOZZLE DESCRIPTION: The "DSL-500" Nozzle Assembly is furnished with a heated radius cap insert and locating ring (Ø3.990) and engineered for direct-feed applications. The 500 series "DSL" nozzle is designed to fill large size parts. The 500 DSL Nozzle is a robust valve gate system engineered for the most demanding applications. Available with up to a Ø.312 gate diameter, the "DSL" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



CATALOG #	"A" DIM.
DSL-5040	4.000
DSL-5045	4.500
DSL-5050	5.000
DSL-5060	6.000
DSL-5070	7.000

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "T" Tip Diameter
- "C" Dimension
- "R" Radius Pocket (1/2" or 3/4")

OSCO° inc.

Resin To Be Processed

NOTE: For sizes other than shown, please contact Osco Tech Service.

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

.312

"T" DIA.

Ø1 000

Ø1.250

"L" DIM.

359

359

.250

125
DSL-500 BORING

Self Contained Dual Shaft Low Profile Valve Gate Nozzle System, Single Application - Machining Details



TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *
Ø1.000	.359	Ø1.0005	.150
Ø1.250	.359	Ø1.2505	.150

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .0000633 X (PROCESSING TEMP. - 68 °F)





TWO-SHOT

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TWO-SHOT

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SEQUENTIAL

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Valve Gate Drops, Manifold Application





Valve Gate Drops, Manifold Application

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Valve Gate Drops, Manifold Application

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TOP OF MOLE VIEW FROM PLA

Set and Adjust Valve Pin from Outside the Mold

Manifold Thermal Expansion Concerns are Eliminated



External Cylinder Valve Gate



Externally Mounted Cylinder

- Reduces machining time
- Increases life by removing cylinder from heated mold



Internal Cylinder Valve Gate





Valve Pin with Pin Guide

(800) 499-OSCO · www.oscosystems.com

Design Versatility





SIDE INJECT MOLD

STACK MOLD

Field Serviceable









LENS



TWO-SHOT



SEQUENTIAL GATING





(800) 499-OSCO · www.oscosystems.com

BLV-50-VG

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 50

NOZZLE DESCRIPTION: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Body Less Valve Gate Nozzle is designed to feed the molded part. The "BLV" is an ideal selection when gate cosmetics are paramount and the circular witness mark from the nozzle tip "T" diameter is not allowable. Each "BLV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
BLV-0520	2.000
BLV-0525	2.500
BLV-0530	3.000
BLV-0535	3.500
BLV-0540	4.000
BLV-0545	4.500
BLV-0550	5.000
BLV-0560	6.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

· Resin to be processed

GATE "O" DIAMETERS * .050 MIN. .080 MAX.

NOTE: For sizes other than shown, please contact Osco Tech Service.

BLV-50-VG BORING

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 50

AIR CYLINDER DETAILS





THERMAL EXPANSION NOTE "AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

FBV-50-VG

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 50

NOZZLE DESCRIPTION: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Full Body Valve Gate Nozzle is designed to feed the part or runner. The "FBV" is an ideal selection when the nozzle tip "T" diameter witness mark is allowable. Each "FBV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
FBV-0520	2.000
FBV-0525	2.500
FBV-0530	3.000
FBV-0535	3.500
FBV-0540	4.000
FBV-0545	4.500
FBV-0550	5.000
FBV-0560	6.000

SPECIFY:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- "O" Gate Diameter
- Stack Height: Gate to Platen Side of cylinder
- Resin to be processed

OSCO° inc.

GATE "O" DIAMETERS

TIP INFORMATION		
"T" DIA.	"L" DIM.	
.500	.160	
.750	.150	
1.000	.150	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBV-50-VG BORING

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 50

AIR CYLINDER DETAILS





TIP INFORMATION		BORING INFORMATION	
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND *
.500	.160	.5005	.080
.750	.150	.7505	.150
1.000	.150	1.0005	.150

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

OSCO° inc.

BLV-100-VG

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 100

<u>NOZZLE DESCRIPTION:</u> OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Body Less Valve Gate Nozzle is designed to feed the molded part. The "BLV" is an ideal selection when gate cosmetics are paramount and the circular witness mark from the nozzle tip "T" diameter is <u>not</u> allowable. Each "BLV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
BLV-1020	2.000
BLV-1025	2.500
BLV-1030	3.000
BLV-1035	3.500
BLV-1040	4.000
BLV-1045	4.500
BLV-1050	5.000
BLV-1060	6.000
BLV-1070	7.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

RUNNERLESS MOLDING SYSTEM:

• Resin to be processed

GATE "O" DIAMETERS*

TRAVEL

(.080 MIN, .150 MAX.)

NOTE: For sizes other than shown, please contact Osco Tech Service.

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BLV-100-VG BORING

BODYLESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 100

CYLINDER DETAILS





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)



FBV-100-VG

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 100

NOZZLE DESCRIPTION: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Full Body Valve Gate Nozzle is designed to feed the part or runner. The "FBV" is an ideal selection when the nozzle tip "T" diameter witness mark is allowable. Each "FBV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

HOW TO ORDER

CATALOG #	"A" DIM.
FBV-1020	2.000
FBV-1025	2.500
FBV-1030	3.000
FBV-1035	3.500
FBV-1040	4.000
FBV-1045	4.500
FBV-1050	5.000
FBV-1060	6.000
FBV-1070	7 000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

· Resin to be processed

GATE "O" DIAMETERS

.080	.125

TIP INFORMATION		
"T" DIA.	"L" DIM.	
.500	.125	
.750	.150	
1.000	.150	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBV-100-VG BORING

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 100

CYLINDER DETAILS







4.50 x .50 WIDE SLOT IN DIRECTION TO SUIT DEPENDENT ON HEATER LEAD BEND



	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *
.500	.125	.5005	.060
.750	.230	.7505	.080
1.000	.150	1.0005	.150

THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 $^\circ$ F)

BLV-200-VG

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 200

NOZZLE DESCRIPTION: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Body Less Valve Gate Nozzle is designed to feed the molded part. The "BLV" is an ideal selection when gate cosmetics are paramount and the circular witness mark from the nozzle tip "T" diameter is not allowable. Each "BLV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG #	"A" DIM.
BLV-2030	3.000
BLV-2040	4.000
BLV-2050	5.000
BLV-2060	6.000
BLV-2070	7.000
BLV-2080	8.000
BLV-2090	9.000
BLV-2100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder
- Resin to be processed

OSCO° inc.

GATE "O" DIAMETERS * 150 MIN. .250 MAX.

GATE "O" DIA. -

NOTE: For sizes other than shown, please contact Osco Tech Service.

BLV-200-VG BORING

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 200



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)



FBV-200-VG

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 200

NOZZLE DESCRIPTION: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Full Body Valve Gate Nozzle is designed to feed the part or runner. The "FBV" is an ideal selection when the nozzle tip "T" diameter witness mark is allowable. Each "FBV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



HOW TO ORDER

CATALOG #	"A" DIM.
FBV-2040	4.000
FBV-2050	5.000
FBV-2060	6.000
FBV-2070	7.000
FBV-2080	8.000
FBV-2090	9.000
FBV-2100	10.000

- Specify:
- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

MOLDING

· Resin to be processed

GATE "O" DIAMETERS .150 MIN. .250 MAX.

TIP INFORMATION		
"T" DIA.	"L" DIM.	
.750	.187	
1.000	.250	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBV-200-VG BORING

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 200



THERMAL EXPANSION NOTE "AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .0000633 X (PROCESSING TEMP. - 68 °F)

BLV-300-VG

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 300

<u>NOZZLE DESCRIPTION:</u> OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Body Less Valve Gate Nozzle is designed to feed the molded part. The "BLV" is an ideal selection when gate cosmetics are paramount and the circular witness mark from the nozzle tip "T" diameter is <u>not</u> allowable. Each "BLV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

HOW TO ORDER

CATALOG # "A" DI	
BLV-3030	3.000
BLV-3040	4.000
BLV-3050	5.000
BLV-3060	6.000
BLV-3070	7.000
BLV-3080	8.000
BLV-3090	9.000
BLV-3100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

• Resin to be processed

GATE "O" DIAMETERS *		
.250 MIN.	.375 MAX.	

.375 VALVE PIN

TRAVEL

GATE "O" DIA.

NOTE: For sizes other than shown, please contact Osco Tech Service.

BLV-300-VG BORING

BODY LESS VALVE GATE NOZZLE SYSTEM, "BLV" SERIES 300

CYLINDER DETAILS



DEPENDENT ON HEATER LEAD BEND



THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. (Due to the Body Less Nozzle Design, thermal expansion does not need to be considered.)

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

OSCO° inc.

FBV-300-VG

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 300

<u>NOZZLE DESCRIPTION</u>: OSCO Valve Gates are designed to run sequentially or with common gate open/close sequence. The Full Body Valve Gate Nozzle is designed to feed the part or runner. The "FBV" is an ideal selection when the nozzle top "T" diameter witness mark is allowable. Each "FBV" nozzle is thermocouple controlled and incorporates a unique heater design to provide uniform nozzle heat and extended service life.



"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

HOW TO ORDER

CATALOG #	"A" DIM.
FBV-3030	3.000
FBV-3040	4.000
FBV-3050	5.000
FBV-3060	6.000
FBV-3070	7.000
FBV-3080	8.000
FBV-3090	9.000
FBV-3100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Diameter
- "O" Gate Diameter
- Stack Height: Gate to Platen side of cylinder

OSCO° inc.

• Resin to be processed

GATE "O" DIAMETERS

TIP INFORMATION		
"T" DIA.	"L" DIM.	
1.000	.150	

NOTE: For sizes other than shown, please contact Osco Tech Service.

FBV-300-VG BORING

FULL BODY VALVE GATE NOZZLE SYSTEM, "FBV" SERIES 300

CYLINDER DETAILS





THERMAL EXPANSION NOTE

"AA" DIM. = "A" DIM. + THERMAL EXPANSION EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

TIP INFORMATION		BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. +.0005 BORE0000	CONTACT LAND *
1.000	.250	1.0005	.150

SCBM-200

Self Contained Body Less Valve Gate Nozzle System, "SCBM" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "SCBM" Nozzle Systems are engineered for manifold applications. The 200 Series "SCBM" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.375" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCBM" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is not allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
SCBM-2055	5.500
SCBM-2060	6.000
SCBM-2065	6.500
SCBM-2070	7.000
SCBM-2075	7.500
SCBM-2080	8.000
SCBM-2090	9.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- Resin To Be Processed

GATE "O" DIAMETER *		
MIN.	Ø.062	
MAX.	Ø.250	

NOTE: For sizes other than shown, please contact Osco Tech Service.

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

OSCO° inc.

SCBM-200 BORING

Self Contained Body Less Valve Gate Nozzle System, "SCBM" SERIES 200 - Machining Details



OSCO° inc.

SCFM-200

Self Contained Full Body Valve Gate Nozzle System, "SCFM" SERIES 200

<u>NOZZLE DESCRIPTION</u>: The "SCFM" Nozzle Systems are engineered for manifold applications. The 200 Series "SCFM" Nozzle is designed to fill small to medium sized parts. The nozzle utilizes Ø.375" flow channels with up to a Ø.250" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCFM" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
SCFM-2055	5.500
SCFM-2060	6.000
SCFM-2065	6.500
SCFM-2070	7.000
SCFM-2075	7.500
SCFM-2080	8.000
SCFM-2090	9.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- Resin To Be Processed

OSCO° inc.

GATE	"O" DIAMI	ETER
.062	.125	.250

TIP INFORMATION		
"T" DIA.	"L" DIM.	
Ø.750	.230	
Ø1.000	.359	

NOTE: For sizes other than shown, please contact Osco Tech Service.

19.0

SCFM-200 BORING

Self Contained Full Body Valve Gate Nozzle System, "SCFM" SERIES 200 - Machining Details



* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.



Ø1.000

.359

Ø1.0005

.250

SCBM-400

Self Contained Body Less Valve Gate Nozzle System, "SCBM" SERIES 400

NOZZLE DESCRIPTION: The 400 Series "SCBM" Nozzle is designed to fill large parts. The nozzle utilizes Ø.437" flow channels with up to a Ø.312" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCBM" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is not allowable.



"AA" DIM. = "A" DIM. + THERMAL EXPANSION

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F) (DUE TO THE BODY LESS NOZZLE DESIGN, THERMAL EXPANSION DOES NOT NEED TO BE CONSIDERED FOR STD. NOZZLE LENGTH)

HOW TO ORDER

CATALOG #	"A" DIM.
SCBM-4060	6.000
SCBM-4070	7.000
SCBM-4080	8.000
SCBM-4090	9.000
SCBM-4100	10.000

S	p	eci	ify:	

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- "R" Radius Pocket
- Resin To Be Processed

OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.

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GATE "O" DIAMETER *		
MIN.	Ø.125	
MAX.	Ø.312	



SCBM-400 BORING

Self Contained Body Less Valve Gate Nozzle System, "SCBM" SERIES 400 - Machining Details



OSCO° inc.

SCFM-400

Self Contained Full Body Valve Gate Nozzle System, "SCFM" SERIES 400

<u>NOZZLE DESCRIPTION</u>: The "SCFM" Nozzle Systems are engineered for manifold applications. The 400 Series "SCFM" Nozzle is designed to fill large parts. The nozzle utilizes Ø.4375" flow channels with up to a Ø.313" gate diameter, permitting faster fills and better quality molded parts. Each nozzle is furnished with two zones of temperature control. The "SCFM" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



HOW TO ORDER

CATALOG #	"A" DIM.
SCFM-4060	6.000
SCFM-4065	6.500
SCFM-4070	7.000
SCFM-4075	7.500
SCFM-4080	8.000
SCFM-4090	9.000
SCFM-4100	10.000

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "T" Tip Diameter
- "O" Gate Diameter
- "C" Dimension
- Resin To Be Processed

	GATE "O" DIAMETER			
	.125	.250	.312	
1				

TIP INFORMATION		
"T" DIA.	"L" DIM.	
Ø.750	.230	
Ø1.000	.359	

SCFM-400 BORING

Self Contained Full Body Valve Gate Nozzle System, "SCFM" SERIES 400 - Machining Details



TIP INFO	RMATION	BORING INF	ORMATION
"T" DIA.	"L" DIM.	"T" DIA. _{+.0005} BORE0000	CONTACT LAND *
Ø.750	.230	Ø.7505	.187
Ø1.000	.359	Ø1.0005	.250

* Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68 °F)

THERMAL EXPANSION NOTE "AA" DIM. = "A" DIM. + THERMAL EXPANSION

DMB-500

Dual Self Contained Body Less Valve Gate Nozzle System, Manifold Application

NOZZLE DESCRIPTION: The "DMB" 500 Nozzle Assembly is a robust valve gate system engineered for the most demanding applications. The 500 Series "DMB" Nozzle is designed to fill large sized parts. Available with up to Ø.312 gate diameter and designed with two zones of temperature control. The "DMB" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is not allowable.



EXPANSION = "A" DIM. X .00000633 X (PROCESSING TEMP. - 68°F)

HOW TO ORDER

CATALOG #	"A" DIM.
DMB-5062	6.250
DMB-5067	6.750
DMB-5072	7.250
DMB-5077	7.750
DMB-5082	8.250
DMB-5087	8.750
DMB-5097	9.750

Specify:

- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "C" Dimension
- Resin To Be Processed

OSCO° inc.

NOTE: For sizes other than shown, please contact Osco Tech Service.



- - GATE "O" DIAMETERS 125 MIN. .312 MAX.

Dual Self Contained Body Less Valve Gate Nozzle System, Manifold Application - Machining Details



DMF-500

Dual Self Contained Full Body Valve Gate Nozzle System, Manifold Application

<u>NOZZLE DESCRIPTION</u>: The "DMF-500" Nozzle Assembly is engineered for manifold applications. The 500 series "DMF" nozzle is designed to fill large size parts. The 500 "DMF" Nozzle is a robust valve gate system engineered for the most demanding applications. Available with up to a Ø.312 gate diameter, the "DMF" Nozzle is an ideal choice when the nozzle tip "T" diameter witness mark is allowable.



- Nozzle Catalog Number
- "A" Dimension
- "O" Gate Diameter
- "T" Tip Diameter
- "C" Dimension
- Resin To Be Processed

OSCO° inc.

NNERLESS MOLDING SYSTEM

GATE "O" DIAMETERS			
.125 .250 .312			

TIP INFORMATION		
"T" DIA.	"L" DIM.	
Ø1.000	.359"	
Ø1.250	.359"	

NOTE: For sizes other than shown, please contact Osco Tech Service.

DMF-5062

DMF-5067

DMF-5072

DMF-5077

DMF-5082

DMF-5087

DMF-5097

6.250

6.750

7.250

7.750

8.250

8.750

9.750

DMF-500 BORING

Dual Self Contained Full Body Valve Gate Nozzle System, Manifold Application - Machining Details







Interface Options

Manifold & Components Only
Pre-Wired
QSS - Quick Set
Hot Half

Where Innovation Flows



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Interface Options

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VIEW FROM PLA

Interface Options

OSCO offers an interface option to meet your application needs.



OSCO's Hot-Half is furnished complete with a Top Clamp Plate, Support Rails, Nozzle Plate and the hot-runner system installed, fully-tested and ready-to-go. Simply 'set and shoot'!



OSCO's Quickset Manifold System provides all of the value and benefits of a complete Hot-Half, but at a much lower price.



Manifold & Components

OSCO's Manifold & Component System option is the basic, manifold system only. Installation and wiring is performed by our customers.



Pre-Wire Manifold System

OSCO's Pre-Wired Manifold System is an interface option that offers a lower price-point. The manifold is wired, electrically tested and the wiring schematic is mounted onto the terminal box.

Available With Any OSCO System

- Valve Gate Systems
- Thermal Systems
- Co-inject
 Systems
- Two-shot Systems



(800) 499-OSCO · www.oscosystems.com
OSCO'S MANIFOLD SYSTEM

OSCO Manifold Systems are engineered to meet the ongoing needs of the plastic molding industry. Typical manifold applications include: conventional molding, valve gating, two-shot, multi-color and shuttle presses (both horizontal and vertical).

The OSCO Manifold System is designed to meet the gate location requirements dictated by the molded part. Virtually any geometric shape can be manufactured into a high performance melt-conveying manifold system.





MANIFOLD DETAILS

OSCO offers five (5) standard manifold systems detailed below. Flow channels, manifold footprint, and clearance details can be altered to suit a specific application.







STANDARD MANIFOLD SYSTEM DIMENSIONS								
SERIES	А	В	С	D	E	F	G	Н
20	3.000	1.500	1.125	1.625	1.500	.250	.250	.250
50	4.000	2.000	1.562	2.000	1.750	.375	.375	1.000
100	4.000	2.000	1.562	2.000	2.000	.500	.500	1.000
200	5.000	2.500	2.000	2.500	2.250	.625	.625	1.000
300	6.000	3.000	2.000	3.000	2.500	.750	.750	1.000

For sizes other than shown here, please contact OSCO.

OSCO's Manifold System is Proven Leak Proof

1. Maintain sufficient clamp tonnage for the projected area being molded.

2. Relationship between manifold lower supports and nozzle head surface must be equal in height, flat and parallel.

3. Relationship between heights of manifold upper supports and the mold support system must be equal in height, flat and parallel.

4. Manifold system stack height must be equal to, or up to a .002" pre-load to the mold support system.

5. Nozzle seal ring stand .010" proud from the nozzle head. After securing the manifold screws, the seal rings will crush, providing a leak proof assembly.



OSCO'S MANIFOLD SYSTEM

OSCO Manifold systems are engineered to be an extension of the injection machine barrel. We take the single point of injection from the injection machine unit and disperse the resin evenly to each nozzle drop in the mold cavity.

100 SERIES MANIFOLD



MANIFOLD COMPONENT PARTS

MANIFOLD EXTENSION NOZZLES



Standard Radius Pockets are: Ø1/2", Ø 3/4" or Flat.

	MANIFOLD EXTENSION NOZZLE INFORMATION						
	PART NUMBER	O.A.L.	FLOW	"D" DIA.	"T" DIA.		
Г	MEN 1020	2.000	Ø.375	Ø1.125	Ø.505		
00 / 50 / 400	MEN 1030	3.000	Ø.375	Ø1.125	Ø.505		
SERIES	MEN 1040	4.000	Ø.375	Ø1.125	Ø.505		
	MEN 1050	5.000	Ø.375	Ø1.125	Ø.505		
	MEN 1060	6.000	Ø.375	Ø1.125	Ø.505		
Г	MEN 2040	4.000	Ø.500 W/Ø.350	Ø1.700	Ø.692		
	MEN 2050	5.000	Ø.500 W/Ø.350	Ø1.700	Ø.692		
200 / 300-	MEN 2060	6.000	Ø.500 W/Ø.350	Ø1.700	Ø.692		
SERIES	MEN 2070	7.000	Ø.500 W/Ø.350	Ø1.700	Ø.692		
	MEN 2080	8.000	Ø.500 w/Ø.350 INLET	Ø1.700	Ø.692		





Standard Radius Pockets are: Ø1/2", Ø 3/4" or Flat.

MANIFOLD NOZZLE SEAT INFORMATION							
PART NUMBER	O.A.L.	FLOW	"D" DIA.	"T" DIA.			
MNS 050	1.250	Ø.375	Ø1.500	Ø.503			
MNS 100	1.250	Ø.375	Ø1.500	Ø.503			
MNS 200	1.312	Ø.500 W/Ø.350 INLET	Ø2.000	Ø.692			

SPLASH TUBE



STANDARD SPLASH TUBE INFORMATION						
PART NUMBER	UPPER O.D.	UPPER I.D.	LOWER I.D.	O.A.L.		
SPLASH TUBE 050/100	Ø2.365	Ø2.00	Ø1.503	1.000		
SPLASH TUBE 050/100	Ø2.365	Ø2.00	Ø1.503	2.000		
SPLASH TUBE 200	Ø2.365	Ø2.03	Ø1.503	1.000		
SPLASH TUBE 200	Ø2.365	Ø2.03	Ø1.503	2.000		

SEAL RINGS



OSCO° inc.

MANIFOLD COMPONENT PARTS

.125

MANIFOLD UPPER SUPPORT



How to Order

Specify: Diameter and "Z" Dimension.

UPPER SUPPORT INFORMATION						
PART NUMBER	DIA.	STANDARD "Z" DIM.	FASTENER			
SUPPORT - UPPER	Ø.625	.500 / .750	#10 S.H.C.S.			
SUPPORT - UPPER	Ø.750	.500 / .750 / 1.000	#10 S.H.C.S.			
SUPPORT - UPPER	Ø1.000	.500 / .750 / 1.000	1/4" S.H.C.S.			

MANIFOLD LOWER SUPPORT



How to Order Specify: Diameter and "Z" Dimension.

LOWER SUPPORT INFORMATION						
PART NUMBER DIA. STANDARD "Z" DIM. FASTENER						
SUPPORT - LOWER	Ø.625	.500	1/4" S.H.C.S.			
SUPPORT - LOWER	Ø.750	.500 / .750 / 1.000	3/8" S.H.C.S.			



How to Order

Specify: Diameter and "Z" Dimension.

CENTER SUPPORT INFORMATION						
PART NUMBER DIA. STANDARD "Z" DIM. DOWEL						
SUPPORT - CENTER - 020	Ø1.500	.500	1/4"			
SUPPORT - CENTER - 050/100/200	Ø2.000	.500 / .750 / 1.000	3/8"			

OSCO FLEXIBLE HEATER INSTALLATION

Some advantages of using Flexible Tubular Heaters:

- Can be hand-formed
- No Special tools required for installation
- Easy to replace



- 1. Line up centers. Align the center of the Osco Flex Heater with the center of the manifold track.
 - a. Manifold track center point is marked inside the groove on earlier manifolds, or on the surface outside the track on newer manifolds.
 - b. If need be you can measure for the center points.
 - i. Lay a cord inside the track.
 - ii. Mark the end points. Remove the cord & measure for center.
 - iii. Mark the center of the cord and re-lay the cord in the track to find manifold track center point.
- 2. Press in Heater from the center point outward. Use a mallet &/or manually press heater in.
- 3. <u>Stake the heater</u> with flat surfaced tool & hammer.
 - a. No sharps, a flat piece of bronze or brass works well.
 - b. Stake the entire length of the heater for best results.
 - c. Staking will help form the heater to the track and provide for the best fit.

NOTES:

- · Do not use sharp edged tools.
- Make sure the groove is chamfered and without any sharps or burrs
- · Do not bend the heater back and forth.
- \cdot Do not bend the unheated cold section



OSCO'S PRE-WIRED MANIFOLD SYSTEM

The Pre-Wired option will simplify the installation of the manifold system into your mold. Furnished with OSCO standard "PIC" and "MTC" type mold connectors, electrical schematic, wiring arm secured to the manifold, and wiring schematic plaque fastened to the terminal box for easy in-press zone identification.

- Save time during installation and dis-assembly.
- Neat and clean wiring installation will assist in avoiding 'down-time'.
- Clearly marked and labeled wiring zones will assure you that the electrical system is both reliable and accurate.





OSCO's Pre-Wired System

OSCO'S QUICK-SET MANIFOLD SYSTEM

The Quick-Set system option will simplify the installation of a complete manifold system into your mold. Furnished with *OSCO* standard "PIC" and "MTC" type mold connectors, electrical schematic, wiring arm and all connectors secured to the manifold, and wiring schematic plaque fastened to the terminal box for easy in-press zone identification.

- Save time during installation and dis-assembly.
- Neat and clean wiring installation will assist in avoiding 'down-time'.
- Clearly marked and labeled wiring zones will assure you that the electrical system is both reliable and accurate.



VERLESS MOLDING SYSTEMS

OSCO'S QUICK-SET VALVE GATE SYSTEM

The Quick-Set Valve-Gate system option will simplify the installation of a complete valve-gate manifold system into your mold. Furnished with *OSCO* standard "PIC" and "MTC" type mold connectors, electrical schematic, wiring arm and all connectors secured to the manifold, and wiring schematic plaque fastened to the terminal box for easy in-press zone identification.

- Save time during installation and dis-assembly.
- Neat and clean wiring installation will assist in avoiding 'down-time'.
- Clearly marked and labeled wiring zones will assure you that the electrical system is both reliable and accurate.



OSCO'S HOT HALF SYSTEM

OSCO's Hot Half System is designed to facilitate the Hot Runner interface. Furnished complete with the top clamp plate, nozzle retainer plate, support rails, locating ring and the OSCO manifold system fully assembled, installed and electrically tested.

- Simply fasten the Hot Half System to your mold base and you are ready to run.
- Simplifies Hot Runner installation, assembly and servicing.
- Helps reduce mold lead-time.



OSCO° inc.

OSCO'S HOT HALF VALVE GATE SYSTEM

OSCO's Hot Half System is designed to facilitate the Hot Runner interface. Furnished complete with the top clamp plate, nozzle retainer plate, support rails, locating ring and the OSCO manifold system fully assembled, installed and electrically tested.

- Simply fasten the Hot Half System to your mold base and you are ready to run.
- Simplifies Hot Runner installation, assembly and servicing.
- Helps reduce mold lead-time.



WIRING OPTIONS

THE WIRING OPTIONS SHOWN BELOW ARE SOME OF THE MOST COMMON MOUNTING CONFIGURATIONS.



CUSTOM HOT-HALF SYSTEM STAND-OFF MOUNTED CONNECTORS



CUSTOM QUICKSET SYSTEM WIRE-ARM MOUNTED WIRING BOX WITH CONNECTORS



CUSTOM HOT-HALF SYSTEM (BRACKET MOUNTED) ANGLE MOUNTED WIRING PLATE WITH CONNECTORS



CUSTOM HOT-HALF SYSTEM (SIDE RAIL MOUNTED) STAND-OFF MOUNTED WIRING BOX WITH CONNECTORS



CUSTOM HOT-HALF SYSTEM (STAND-OFF MOUNTED) VERTICAL MOUNT WIRE CONNECTORS



CUSTOM HOT-HALF SYSTEM (SIDE RAIL MOUNTED) PARALLEL MOUNT WIRE BOXES

PIPING OPTIONS

THE PIPING OPTIONS SHOWN BELOW ARE SOME OF THE MOST COMMON MOUNTING CONFIGURATIONS.



CUSTOM QUICK-SET SYSTEM HYDRAULIC PIPING (BRACKET MOUNTING)



CUSTOM HOT-HALF SYSTEM HYDRAULIC PIPING (RECESSED BRACKET MOUNTING)



CUSTOM QUICKSET SYSTEM AIR PIPING (BRACKET MOUNTING)



CUSTOM HOT-HALF SYSTEM (END-MOUNTED) STAND-OFF MOUNTED PIPING WITH ELECTRICAL CONNECTORS



HYDRAULIC FITTING MOUNTING PLATE BRACKET

CUSTOM HOT-HALF SYSTEM HYDRAULIC PIPING (RECESSED BRACKET MOUNTING)

CUSTOM HOT-HALF SYSTEM PNEUMATIC PIPING (RAIL MOUNTED)

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OSCO° inc.

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STANDARD LOCATING RINGS FOR SYSTEMS





INDEX

Valve Gate and Temperature Controllers

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☆ Features and Benefits	1	
 VGS (Valve Gate Sequencer) Hydraulic or Pneumatic 2 - 24 Zones 		
 ☆ Mini - VGS ● Pneumatic ● 4 - 8 Zones 		
 Temperature Controllers 1 - 48 Zones UATC-20 or S20-DC3 Modules Component Parts Visions 3000 		

How it works:

- Each controller is furnished with a contact receptacle plug. Connect plug to either an injection forward signal or to a mold parting-line limit switch.
- Once the cycle start signal is given to the controller, the upper delay timers will open the gates after the set amount of time delay expires.
- Lower open timers will keep gates oper for the set amount of timed input.
- When the time expires, the gates will close.

Safety Feature:

Anytime mold opens and timers are in "auto" position, Gates will close for operator safety.

Features:

Completely self-contained hydraulic system (pump, motor, manifold, solenoids, valves, filter) with single set-point timers housed in a rugged, compact portable cart. The cart is equiped with hangers for holding hose assemblies.

240 Volts, 3 Phase

How to order:

- (1) Specify: Computer part number
- (2) Confirm: Number of zones
- 3 Confirm: Voltage

COMPUTER #	# of Zones	# of Timers	Hydraulic Hose Assemblies
EAHSC02	2	4	4 - Hose Assy with fittings - 20' Lg.
EAHSC04	4	8	8 - Hose Assy with fittings - 20' Lg.
EAHSC06	6	12	12 - Hose Assy with fittings - 20' Lg.
EAHSC08	8	16	16 - Hose Assy with fittings - 20' Lg.
EAHSC12	12	24	24 - Hose Assy with fittings - 20' Lg.

VGS (Valve Gate Sequencer) Available in Air or Hydraulic

Touch Screen Controller

- Mold storage
- Manual operation
- Test mode
- Troubleshooting
- Color Screen
- Optional linear position switching
- Optional cavity pressure switching
- Portable on 25 foot cord

Mobile Valve Gate Sequencer

- 120, 230, or 460 VAC available. (120 VAC for up to 10 Zones max)
- Compact small foot print
- 4, 6, 8, 12, or 16 zones available
- Super quiet
- No water cooling needed
- Over 50% energy savings compared with other units



"A quiet, versatile, low energy, Valve Gate Sequencer for today's Hi Tech Molding"

VGS (Valve Gate Sequencer) Available in Air or Hydraulic

This control is based on pump on demand technology. When the valve gates are fired, oil is used from the hydraulic accumulator. Once the pressure in the accumulator is below set point, the hydraulic pump replenishes the accumulator. The pump then rests until oil is needed again. This design eliminates waste, oil heating, and dramatically reduces electricity use. The conventional systems use a motor running all the time, or an air over hydraulic pump. These systems are wasteful. The problem with the air over oil pumps is that it takes 8 electric horse power to produce one air horse power. Both of these conventional designs have no comparison to simple pump on demand technology.

The use of one single energy source (120 volts AC single phase) means it is literally like plugging in a hand tool. The pump on demand allows for no water source needed to cool the oil. These systems come standard with time based switching. Optional sequential switching or cavity pressure switching can be added.

Standard features:

- 120, 230, or 460 VAC available. (120 VAC for up to 10 Zones max)
- Color 6-inch touch screen
- Timer based switching
- Caster cart for portability
- Quick disconnects for ease of set up
- On-Off display of each valve
- Energy savings accumulator design
- Super quiet operation
- Minimum press cycle time 10 seconds standard, faster cycle times consult factory

Options

- Part graphic import with gate location available
- Manifold design import with gate location
- Valve positioning verification with Inject inhibit
- Linear switching (sequential switching) with linear potentiometer
- Cavity pressure switching
- 230 VAC operation
- 460 VAC operation
- Air operation
- Older existing valve gate units can be upgraded with this controller

OSCO[®]*inc.* RUNNERLESS MOLDING SYSTEMS

Call Us Direct (800) 499-OSCO

★ www.oscosystems.com ★ 2937 Waterview Drive Rochester Hills, MI 48309



MICRO CONTROLLER PNEUMATIC VALVE GATE SEQUENCER



OSCOSYSTEMS.com 800.499.OSCO

Where Innovation Flows

Features:

- Up to 8 Zones of independent timing control.
- 25-foot quick disconnect cable.
- Portable
- 120 VAC

Optional:

- Switching block with LED gate open/close indicator
- Pneumatic sequencing manifold, mold or machine mountable

OSCO'S 1000



Valve wiring 10 conductor pig tail 25 foot cable with color coded wiring



Quick Disconnect



Trigger input Quick-disconnect connector needs to be triggered with dry contacts from Inject signal or mold when closed.



2937 Waterview Drive, Rochester Hills, MI 48309

Touch screen layout

MAIN	SCREEN	SYSTEM
6ATE 1 6ATE 2	GATE 5	MANUAL
GATE 3	GATE 7	TRIGGER
SET-UP	NANUAL	

Main screen:

Controler

This screen shows the gates as they are turning on and off and the trigger input. Push button to switch between manual and auto operation and to screen change pushbuttons.

60	TE 1 SET	
DELAY TIME	ON TIME	GATE 1
12. 345	12. 345	On
12. 345	12. 345	
HAID		DEXT

Set up screen:

This screen is where you adjust the delay and on time values for the gate. Pushing the next button will take you to the next gate.

Sec. 1	FORCE	PAGE	-
201451	2010 1	2010	2014-0
UN	UN	UN	UN
39644 ON	X914 4 ON	2914 M	2916 B
			CIL
Main	SET	-02	

Manual screen:

This screen allows each gate to be turned on for testing.

Optional



Switching Block with LED **Zone Indicator**



Pneumatic Sequencing Manifold

Call Us Direct (800) 499-OSCO

sales@oscosystems.com ***** www.oscosystems.com *****

Temperature Control Systems



All ITC's temperature control systems, associated components and accessories are ruggedly reliable, easy to use and maintain. Our simple down-to-earth design makes them highly adaptable in ever changing manufacturing environments. Affordability, adaptability, superior features and a 2-year limited warranty equates to a quick payback, improved molding cycles, less down time, reduced operating costs and an improved bottom line.



PORTABLE FLOOR STANDS		
Part No	Use With	
PFS-1	MF1, MF2 & MFHP-1	
PFS-5	MF5 & MFHP-3	
PFS-812 MF8, MF12 & MFHP-6		
Manufactured of heavy gage steel tubing and provided with swivel & lockable casters.		

Stands are shipped un-assembled.

	TRANSFORMER PACKAGES
	Step-down 480v to 240v 3-phase
TP-6-5	6 kva with 5 zone stand
TP-9-8	9 kva with 8 zone stand
TP-15-8	15 kva with 8 zone stand
TP-15-12	15 kva with 12 zone stand
TP-30-8	30 kva with 8 zone stand
TP-30-12	30 kva with 12 zone stand
TP-45-12	45 kva with 12 zone stand

Pre-wired and assembled – includes Transformer, Welded stand with casters, Fused disconnect and 10 ft. AC input power cable (no connector on end).



	MOLD CABLES			
	Power	(Amps)	Length	Thermocouple
PWC12-10	PWC5-10	(15)	10 FT.	THC5-10
	PWC5-20	(15)	20 FT.	THC5-20
	PWC8-10	(15)	10 FT.	THC8-10
	PWC8-20	(15)	20 FT.	THC8-20
	PWC12-10	(15)	10 FT.	THC12-10
	PWC12-20	(15)	20 FT.	THC12-20
THC12-10	PWCHP3-10	(30)	10 FT.	
	PWCHP3-20	(30)	20 FT.	
	PWCHP6-10	(30)	10 FT.	
	PWCHP6-20	(30)	20 FT.	

Custom lengths and connector configurations are available upon request.

Mold Power Connectors have 6' leads with ground wire.	MOLD CONNECTORS		
	Power	(Amps)	Thermocouple
	MPC-5	(15)	MTC-5
	MPC-8	(15)	MTC-8
	MPC-12	(15)	MTC-12
	MPCHP-3	(30)	
MPC-5 MTC-5	MPCHP-6	(30)	





CONNECTOR KITS

Number	(Amps)	Description
MEK-5TC	(15)	Cable, Mold End Kit, 5 Zone, Thermocouple (Female)
MEK-8TC	(15)	Cable, Mold End Kit, 8 Zone, Thermocouple (Female)
MEK-12TC	(15)	Cable, Mold End Kit, 12 Zone, Thermocouple (Female)
MEK-PR	(15)	Cable, Mold End Kit, 5, 8 & 12 Zone, Power (Female)
FEK-PR	(15)	Cable, Frame End Kit, 5, 8 & 12 Zone, Power (Male)
FEK-TC	(15)	Cable, Frame End Kit, 5, 8 & 12 Zone, Thermocouple (Female)
FCK-PR	(15)	Main Frame, Connector, 5, 8 & 12 Zone, Power (Female)
FCK-TC	(15)	Main Frame, Connector, 5, 8 & 12 Zone, Thermocouple (Male)
MF-EC	All	Card Edge Connector Kit w/Contacts - All Main Frames
MF-ECC	All	Card Edge Connector - Contacts - All Main Frames
MF-CG	All	Card Guide, 6" - All Main Frames
ABC-15	All	Module Fuse - Special Fast Blow
MEKHP-3PR	(30)	Cable, Mold End Kit, 3 Zone, Power (Female) (High Power)
MEKHP-6PR	(30)	Cable, Mold End Kit, 6 Zone, Power (Female) (High Power)
FEKHP-3PR	(30)	Cable, Frame End Kit, 3 Zone, Power (Male) (High Power)
FEKHP-6PR	(30)	Cable, Frame End Kit, 6 Zone, Power (Male) (High Power)
FCKHP-3PR	(30)	Main Frame, Connector, 3 Zone, Power (Female) (High Power)
FCKHP-6PR	(30)	Main Frame, Connector, 6 Zone, Power (Female) (High Power)



1 & 2 ZONE CONNECTOR KITS (Combination Power & T/C)

Number	(Amps)	Description
1Z-ME	(15)	Cable End, Male Connector, 1 & 2 Zone
1Z-FE	(15)	Cable End, Female Connector, 1 & 2 Zone
1Z-MC	(15)	Mold Connector, Male, 1 & 2 Zone
1Z-FC	(15)	Frame Connector, Female, 1 & 2 Zone
1Z-MEL	(15)	Cable Coupler Hood, w/Latch, Male, 1 & 2 Zone
1Z-ME90	(15)	Cable End, Male Connector, 90°
1Z-IPP	(15)	Input Power Cord Plug, Female
MPTCHP-1	(30)	Mold Connector, 1 & 2 Zone (Male) (High Power)



1 & 2 ZONE CABLES (Combination Power & T/C)

and the second se	Number	(Amps)	Length
	PTC1-10	(15)	10 ft. long
	PTC1-20	(15)	20 ft. long
D	PTCHP1-10	(30)	10 ft. long (High Power)
	PTCHP1-20	(30)	20 ft. long (High Power)

Custom Lengths and configurations are available upon request.

• Main Frames, Temperature Control Modules, Cables and other components are all sold separately.

- Please specify Voltage and Current requirements when ordering.
- ITC will gladly modify standard main frames, cables, etc., to accommodate your application.
- All modular components are "G" series compatible.

MF-PH8 8 MF-TH8 MF-PH12 12 MF-TH12 Image: MF-PH12 Image: MF-PH12 Image: MF-PH12

MAIN FRAME HARNESSES

Zone

5

MF-PH5

Thermocouple

MF-TH5

MOLD WIRING JUNCTION BOX (EMPTY)

	Part Number	Zones
	MJB-5	5
	MJB-8	8
	MJB-12	12
	Connectors must be ordered	d separately.

MOLD WIRING JUNCTION BOX (PRE-WIRED)

	Part Number	Zones
	MJBW-8	8
	MJBW-12	12
	Pre-wired with terminal strip	& connectors.

MAIN FRAME BLANK PANEL

MFBP

Fits all 15 & 30 amp main frames.



STANDARD ITC 15 AMP MAIN FRAME

0.0	1.970		MF1	1-Zone
	a a		MF2	2-Zone
			MF5-150	5-Zone w/50 amp breaker
			MF8-150	8-Zone w/50 amp breaker
			MF12-150	12-Zone w/50 amp breaker
ME1	ME2	MF5-150	MF16-250	16-Zone w/(2) 50 amp breakers
			MF16-170	16-Zone w/70 amp breaker
ME8-150			MF20-250	20-Zone w/(2) 50 amp breakers
			MF20-170	20-Zone w/70 amp breaker
			MF24-250	24-Zone w/(2) 50 amp breakers
			MF24-170	24-Zone w/70 amp breaker
			MF28-350	28-Zone w/(3) 50 amp breakers
		Calabeted - 1-1-1-2-	MF32-350	32-Zone w/(3) 50 amp breakers
		MF24-250	MF40-450	40-Zone w/(4) 50 amp breakers
「「「「「「」」」」			MF44-450	44-Zone w/(4) 50 amp breakers
Ν	MF12-150		MF48-450	48-Zone w/(4) 50 amp breakers

STANDARD ITC 30 AMP (HIGH POWER) MAIN FRAME 400



MFHP-1-130	
MFHP-3-150	
MFHP-6-1100	

3-Zone w/50 amp breaker 6-Zone w/100 amp breaker

1-Zone w/30 amp breaker

All ITC 15 & 30 amp Main Frame use our standard S20-D3C & UATC-20 control modules. Unless otherwise specified all main frames are 240v, 3-phase except MF1 & MF2 which are 240v single phase.

All components are neatly contained within the main frame. Special or Larger Control Systems are available upon request.

82 - Zone w/150 amp breaker

Stacks of 2 or more main frames are rigidly fastened together into a single prewired unit.

VISIONS 3000 INTELLIGENT TEMPERATURE CONTROL SYSTEM

VCS-96-82-150

VCS-16-16-70	16 - Zone w/70 amp breaker
VCS-32-18-100	18 - Zone w/100 amp breaker
VCS-32-20-100	20 - Zone w/100 amp breaker
VCS-32-22-100	22 - Zone w/100 amp breaker
VCS-32-24-100	24 - Zone w/100 amp breaker
VCS-32-26-100	26 - Zone w/100 amp breaker
VCS-32-28-100	28 - Zone w/100 amp breaker
VCS-32-30-100	30 - Zone w/100 amp breaker
VCS-32-32-100	32 - Zone w/100 amp breaker
VCS-48-34-125	34 - Zone w/125 amp breaker
VCS-48-36-125	36 - Zone w/125 amp breaker
VCS-48-38-125	38 - Zone w/125 amp breaker
VCS-48-40-125	40 - Zone w/125 amp breaker
VCS-48-42-125	42 - Zone w/125 amp breaker
VCS-48-44-125	44 - Zone w/125 amp breaker
VCS-48-46-125	46 - Zone w/125 amp breaker
VCS-48-48-125	48 - Zone w/125 amp breaker
VCS-64-50-125	50 - Zone w/125 amp breaker
VCS-64-52-125	52 - Zone w/125 amp breaker
VCS-64-54-125	54 - Zone w/125 amp breaker
VCS-64-56-125	56 - Zone w/125 amp breaker
VCS-64-58-125	58 - Zone w/125 amp breaker
VCS-64-60-125	60 - Zone w/125 amp breaker
VCS-64-62-125	62 - Zone w/125 amp breaker
VCS-64-64-125	64 - Zone w/125 amp breaker
VCS-80-66-150	66 - Zone w/150 amp breaker
VCS-80-68-150	68 - Zone w/150 amp breaker
VCS-80-70-150	70 - Zone w/150 amp breaker
VCS-80-72-150	72 - Zone w/150 amp breaker
VCS-80-74-150	74 - Zone w/150 amp breaker
VCS-80-76-150	76 - Zone w/150 amp breaker
VCS-80-78-150	78 - Zone w/150 amp breaker
VCS-80-80-150	80 - Zone w/150 amp breaker

VCS-96-84-150	84 - Zone w/150 amp breaker
VCS-96-86-150	86 - Zone w/150 amp breaker
VCS-96-88-150	88 - Zone w/150 amp breaker
VCS-96-90-150	90 - Zone w/150 amp breaker
VCS-96-92-150	92 - Zone w/150 amp breaker
VCS-96-94-150	94 - Zone w/150 amp breaker
VCS-96-96-150	96 - Zone w/150 amp breaker
VCS-112-98-175	98 - Zone w/175 amp breaker
VCS-112-100-175	100 - Zone w/175 amp breaker
VCS-112-102-175	102 - Zone w/175 amp breaker
VCS-112-104-175	104 - Zone w/175 amp breaker
VCS-112-106-175	106 - Zone w/175 amp breaker
VCS-112-108-175	108 - Zone w/175 amp breaker
VCS-112-110-175	110 - Zone w/175 amp breaker
VCS-112-112-175	112 - Zone w/175 amp breaker
VCS-128-114-200	114 - Zone w/200 amp breaker
VCS-128-116-200	116 - Zone w/200 amp breaker
VCS-128-118-200	118 - Zone w/200 amp breaker
VCS-128-120-200	120 - Zone w/200 amp breaker
VCS-128-122-200	122 - Zone w/200 amp breaker
VCS-128-124-200	124 - Zone w/200 amp breaker
VCS-128-126-200	126 - Zone w/200 amp breaker
VCS-128-128-200	128 - Zone w/200 amp breaker

Unless otherwise specified all VISIONS 3000 systems are 240v, 3-phase.

Systems are available for both 15 and 30 amp zones. VISIONS 3000 offered with standard Key-pad Interface or Optional Touch-screen interface.

Valve Gate Sequencing Option.

Special or Larger Control Systems, as well as Dual or Low Voltage Systems are available upon request.





The UATC-20 Temperature Control Module has been designed with the latest in microprocessor technology for Hot Runner Applications where state-of-the-art operational and diagnostic features are a requisite. There are many little features, such as gold-plated edge connector, incorporated within the UATC-20 which greatly enhances its operation. The UATC-20 is a rugged, simple to set-up and easy to use module which is versatile enough to move from project to project, with all the sophistication necessary for today's demanding molding requirements.

Some of the exceptional analytical functions found on the UATC-20 are:

- A diagnostic snapshot of the heaters operating characteristics are revealed when the current sensing feature is employed.
- Detects and alerts to the potentially dangerous condition of current leaking to ground.
- If power to the heater exceeds a selected value, the module will alarm and disables power to the heater preventing damage.
- Advance circuitry detects alarms and disables power to the heater in the event the triac fails in a shorted condition.
- In the event of a Thermocouple, Open or Shorted condition, the module will automatically go into APO (Average Power Output) mode, allowing operations to continue by providing the same average power to the heater as applied prior to the failure.
- Control algorithms are by means of our Adaptive-auto-tuning PID or FUZZY logic which makes intelligent control decisions and minimizes electrical stress on the heaters.
- Real time diagnostics fault detection & display.







UATC-20 Temperature Control Module



ENHANCED DIAGNOSTIC FEATURES:

- Ground fault detection (selectable range)
- High amperage alarm (selectable range)
- Thermocouple open, shorted & reversed alarm
- Triac shorted & open alarm
- Heater open alarm
- High and low temperature alarm
- Blown fuse indicators

SAFETY FEATURES

- · High voltage thermocouple protection (fused)
- Module high current protection (fused)
- Power disabled to heater:
- o Triac shorted
 - o Triac open
 - o Heater open
 - o Over temperature
 - o High amperage
- Audible alarm (selectable on/off)

FEATURES:

- All functions & parameters are fully selectable from the "menu" feature on the keypad
- Amperage measurement & display
- Percent of power display (selectable range)
- Automatic or manual operation
- Automatic soft start
- Anti-arcing
- Boost (selectable temperature & time)
- Standby
- "F" or "C" temperature ranges
- Type "J" or "K" thermocouple
- Selectable control method Adaptive-auto-tuning PID or Fuzzy Logic
- Panel lock out (selectable on/off)
- Electrically Isolated Front Panel
- APO (average power output) for T/C failure conditions
- Automatic test of LED segments
- Operating voltage 240V, 50/60 Hz or 120V
- Cold junction compensation
- Zero crossing triac
- This module operates both of our 15 and 30 main frames



MJBW Series Wired Mold Junction Boxes



MJBW Series Mold Junction Box

		L	W	D
MJBW-5	5-Zone	8.66	2.34	4.00
MJBW-8	8-Zone	9.47	2.34	4.00
MJBW-12	12-Zone	10.53	2.34	4.00

Different configurations available upon request





- Economical, easy to install and maintain
- 16 Amp 240 Volt
- Power and Thermocouple Connectors are Pre-wired to Terminal Strips
- Terminal Strips are Pre-numbered to correspond with Connectors
- Boxes are Powder Coated for Durability
- All Junction boxes are subjected to a rigorous testing program to ensure quality
- Junction Boxes Mount Directly on the mold





MJBW Series Wired Mold Junction Boxes

Mold Junction Boxes MJB Standard Series



• 16 Amp 240 Volt

 Most Economical Junction Box Available

MJB Series Mold Junction Box

		L	W	D
MJB-5	5-Zone	8.66	2.34	4.00
MJB-8	8-Zone	9.47	2.34	4.00
MJB-12	12-Zone	10.53	2.34	4.00

Different configurations available upon request



Mold Junction Boxes-High Power MJBHP Series



Different configurations available upon request

D

4.00

4.00



A superior Temperature Control Module designed for those applications where ease of operation, cost and features are of concern.

EXCEPTIONAL VALUE

EASE OF OPERATION

PREFERRED DIAGNOSTICS FEATURES

SUPERIOR OPERATING FEATURES

DURABILITY

WARRANTY







S20-DC3 Temperature Control Module



The S20-D3C Temperature Control Module has been intelligently designed, making it easy to set up and simple to use, while maximizing productivity, and providing an exceptional range of features, in order to meet the rigorous requirements of today's plastics industry. The Microprocessor based circuitry of the S20-D3C performs a full array of diagnostic and operational functions. Set-point temperatures are automatically maintained by means of our fully Adaptive-auto-tuning PID/FUZZY LOGIC function. The S20-D3C Module has been designed with the operator in mind; therefore it is easy to use. What could be simpler than, just turning it on, setting the operating temperature using the pinwheel set-point, then letting it run?

FEATURES:

- Automatic or Manual Operation
- Advanced Anti-Arcing Circuitry w/"ITC" Main frames
- Automatic Soft Start
- Amperage Measurement & Display
- Type "J" or "K" Thermocouple
- "F" or "C" Temperature ranges
- Selectable Control Methods Adaptive-auto-tuning PID or Fuzzy Logic
- Manual Control for non-thermocouple applications
- Blown Fuse indicator
- This Module operates all "ITC" 15 and 30 amp main frames
- Compatible with "G" series main frames

DIAGNOSTICS:

The multifunction digital readout displays actual temperature, amps, percent of power, as well as various error codes:

- Open Thermocouple
- Reverse Thermocouple
- Shorted Thermocouple
- Open Triac or Heater
- Shorted Triac
- Over Current Condition

Individual LED's indicate:

- Manual Operation
 - Soft Start
 - High/Low Temperature +/- 30° F
 - Power output to the mold
 - Blown Fuse
 - "F" or "C" Temperature ranges
 - "J" or "K" type thermocouple indicator
 - Amp Measurement & Display



MFH-1 Single Zone Temperature Control System Totally Digital & Self-Contained for Today's Industry

The MFH-1 is a 15 amp, microprocessor-based, single zone temperature controller designed for today's demanding needs. Its compact foot print, robust design with rugged extruded aluminum case and advanced features are ideally suited for use with hot sprue bushings, machine nozzles or in areas where this condensed size and all inclusive design are requisites.



The latest in microprocessor technology offers many improved and unique operating features not found elsewhere, providing ease of use, the flexibility of menu selectable features and settings, as well as real time fault detection and alarm.

SUPERIOR FEATURES:

- · Compact, durable and full featured design
- · Easy to use
- Preferred diagnostic features
- · Large Dual Digital Displays Easy to read temperature, setpoint and diagnostic conditions
- Audible Alarm Sounds during error conditions
- Fuses Mounted on rear panel for easy access
- Soft Start LED Indicator Lit when in soft start mode
- Heater Load LED Indicator Lit as power is applied to heater
- Bumpless Transfer APO (average power output) with learned % power for thermocouple failure conditions

SELECTABLE FEATURES:

- Auto or Manual Operation LED mode indicator
- Type J or K Thermocouple LED mode indicator
- F° or C° Temperature Range LED mode indicator
- Amperage Monitoring & Display LED indicates AMP mode
- Audible Alarm Selectable on /off
- Front Panel Lockout Selectable on/off

ENHANCED DIAGNOSTICS:

- High/Low Temperature LED's indicate fault (selectable range)
- tCr Error Display Thermocouple Reverse
 tCO Error Display Thermocouple Open
 tCS Error Display Thermocouple Shorted
- tOh Error Display Triac/Heater Open
- tSh Error Display Triac Shorted
- HiC Error Display High Amperage Alarm (selectable range)

SAFETY FEATURES:

- High Voltage Thermocouple Protection (fused)
- Module High Current Protection (fused)
- Electrically Isolated Front Panel •
- Power Disabled to Heater:
 - o Triac Shorted
 - o Triac Open
 - o Heater Open
 - o Over Temperature
 - o High Amperage



MFH-1 Single Zone Temperature Control System





These connectors are supplied when no cables are ordered



Requires 14/3 SJ or SJO



1Z-FE Cable End for

Main Frame

Main Frame Connector (female) supplied with system if PTC1 Combination Power and T/C cable is not ordered)

Optional Items





PTC1 Combination Power & T/C Cable

PRODUCT SPECIFICATIONS:

- 208 to 240Vac, single phase 120Vac (Optional)
- 50/60 Hz
- 15 Amp Capable
- 3600 Watts
- Size: 6 1/2" Wide, 2" High, 10" Deep
- Control System Power Usage, Less than 5 watts
- Set Point Range 0° to 999° F

- Control Accuracy +/- 1° F $(0.5^{\circ} C)$
- Calibration Accuracy Better than 0.2% full range
- Cold Junction Compensation
- Operating Temperature Range -32° to 120° F
- Output Drive Internal solid state triac, zero crossing AC pulse



The **VISIONS 3000 CONTROL SYSTEM** is an advanced and affordable Hot Runner Temperature Controller designed for ease of use, reliability and precise temperature control. All **VISIONS CONTROL SYSTEMS** have the necessary flexibility to efficiently and economically operate in smaller single unit environments as well as centralized manufacturing facilities with sophisticated high cavitation processes. In today's demanding environment, molders require the capabilities of our ATC (Adaptive Thermal Control) self-tuning algorithm and powerful diagnostic (Power Temperature Comparator) features, which provides an invaluable insight into the operation of the mold.

AFFORDABILITY EASE OF USE DURABILITY FEATURES WARRANTY SELF DIAGNOSTICS COMMUNICATIONS MULTI-LINGUAL



VISIONS 3000 CONTROL SYSTEM

The **VISIONS** series of temperature control systems set an Industry standard with its well proven robust design, precise temperature control, sophisticated features, ease of operation, dependability, modular design flexibility and scalability of size.

VISIONS 3000 software incorporates many exclusive and intuitive features which afford superior operation and control over a wide range of molding applications. The VISION 3000 software also provides ease of access to a variety of informational and diagnostic functions, start-up functions, adjustable alarm limits, boost, standby, zone slaving, password protection, wiring diagnostics one-way and two-way communications, to mention just a few.





FEATURES AND HIGHLIGHTS

Affordability – What good are all the features in the world if the cost is prohibitive? **VISIONS** systems have the modularity to make them a reality for everyone.

ATC Control Technology – Adaptive Thermal Control technology provides an advanced algorithm which is adaptable to different molding environments for precise temperature control.

Boost – The boost function is user selectable from the controllers display or it can be automatic via peripheral interface.

Communications – VISIONS 3000 powerful software provides sophisticated two-way communications capabilities. By means of Ethernet or Discrete protocol, remote devices can receive input from or give output commands to the **VISIONS 3000** controller. Remote devices can operate in either a supervisory function or as a command center. The **VISIONS 3000** also acts as a control device to start or cease operations.

Some of the commands which can be input to or output from the temperature controller are:

<u>Output:</u> Machine cycle, Toolguard, Tool temperature-safe to run, Tool diagnosis-safe to run, Alarm functions including Over/under temperature, Etc. **Input:** Control start operation, Tool standby, Tool boost, Toolset data base selection, Temperature set points, Etc.


VISIONS 3000 CONTROL SYSTEM



Ease of Use – **VISIONS 3000** systems have been designed to be intuitive and simple to operate. Just turn the system on and enter the set points. The Intelligent Start-up function does the rest, taking the mold from warm-up to steady state in a manner which eliminates uneven thermal expansion. If during start-up, any zone fails to reach set point in a given time frame, the system will alarm indicating the deficient zone.

Graphics – VISIONS 3000 comes with a full set of functional graphics which offer the utmost in usefulness.

Large Color Screen – Graphics style LCD screen and ergonomic membrane arrangement is rugged and particularly well suited for clean room environments as well as the harsh realities of industrial life.



Multi-Lingual – English, Spanish, Danish, Deutsche, Italian, (Other languages can be easily incorporated).

Reliability – Rugged industrial hardened design & construction equates to a unit that will stand up to serious industrial environments.

Power Temperature Comparator – A

diagnostic feature in which a graphic comparative view of actual power and temperature against time is displayed.

Safe Mode – Lowers the temperature of a zone or group of zones while the molding process is at idle for a short period of time. This function is either user selectable or automatic via peripheral interface.

Security – Three levels of security, plus the ability to define new passwords and access levels.

Self Diagnostics – An intuitive suite of functions which technicians love. These functions are always at hand from start up through operations.

Serviceability - The

VISIONS 3000 is a truly modular system. Cards can be swapped in a matter of seconds with little or no interruption.

Slaving – When one or more zones do not have thermocouple feedback, they can be linked to zones with



similar characteristics. This function can be selected at the controller or via peripheral interface.

Soft Start – An automatic feature within the Run function. It bakes moisture out of the tool by slowly bringing up the temperature of the mold to 200° F (93° C), then ramps up power until the measured value is within the proportional band for each zone.

System Alarm – The various alarm triggering events within the **VISIONS 3000 SYSTEM**, allow management to make intelligent operational decisions, such as allowing the system to continue operation, placing the tool in standby, or to shut down the tool. This allows

management the ability to determine a strategy for the molding operation.



Tool Database - VISIONS 3000

intelligent control system is able to store

and retrieve over 100 mold toolsets. The database can be activated by the user or via peripheral interface.

Toolguard – An exclusive patented feature of the **VISIONS 3000** suite of software. Toolguard monitors the performance and operations on the mold and can

automatically put the system into safe mode if it detects a failure in the cooling system, or if the tool has stopped cycling. Toolguard prevents excessive heat buildup in the mold, which can degrade material or even damage the mold.





VISIONS 3000 CONTROL SYSTEM

Self Diagnostics

Self Diagnostics Capability:

The **VISIONS 3000** Tool Diagnostics Suite performs a full set of functional tests to determine the condition of the mold, controller and machine operation.

Tool Diagnosis:

A function for troubleshooting new or existing tools, which checks for faults such as:



- Swapped heater or thermocouple wires. If one is found, the controller indicates the affected zone.
- Heater Power Monitoring (heater amperage and/or wattage) to detect leakage.
- Heater Resistance Monitoring to predict heater failure.
- Thermocouple Open, Short, Reversed, Etc.
- Measures resistance of each heater for failure analysis.

Toolguard:

This patented feature monitors the performance and operation of the mold cooling system. The controller will alarm putting the system into safe mode if a water cooling problem is detected.

Machine Interface:

VISIONS 3000 can take a cyclic or constant input from the machine and tool while in production and trigger a shut down if operations cease after a selectable period of time.

Visual Diagnostics:

LED's are visible through the front panel giving evidence of CPU communications, fuse condition and output activity for each zone.

Surface Graphs:

At a glance, Surface Graphs provide an immediate insight into the operation of all tool zones.

Trend Graphs:

Provides a scalable display of the historic values for a particular zone.

Graphic Visualization

Surface Graphs:



ational characteristics of the tool. By using this patented feature, the operator no longer has to scroll each zone to determine tool operating conditions. Now anomalies can be seen with a single glance.

This feature displays temperature values, output power or output percentage information from the tool in a three dimensional graph. This diagnostics method provides a much quicker and simpler approach than tabulated data or trend graphs.



If anomalies are detected within a zone or group of zones, the particular Power Temperature Comparator Graph for those zones can be called up for an in-depth investigation.

Power Temperature Comparator Graphs:

A scalable display of the actual measured value of temperature & power against time for each zone on the mold. The Power Temperature Comparator Graph used in conjunction with the Surface Graph feature, allows for



expeditious troubleshooting.

Viewing Modes:

Three viewing modes enable the operator to select the level of detail they wish to see (from 18 to 84 zones per screen).

Normal Display Mode:

Medium density. Displays up to 36 zones (Zone #, Set point, Temperature, Power & Errors.



Display Mode 1:

High density. Displays up to 84 zones at one time (displays the same information as in the normal display mode, except condensed).



Display Mode 2:

Low Density. Displays up to 18 zones (an expanded view of data for each

zone, including a time line graph of measured temperature and output power).



Options

Low Voltage Hot Runner Control Systems Dual Voltage Hot Runner Control Systems High Amperage Zones Special / Custom Hot Runner Control Systems Special / Custom Cables & Connectors Valve Gate Sequencing Available





Machine Shut Off Nozzles 80 Filtering & Mixing Nozzles





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Filtering & Mixing Nozzles **Machine Shut Off Nozzles**

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Machine Shut Off Nozzles & Filtering & Mixing Nozzles

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Index

TOP OF MOLI VIEW FROM PLA

Recover Quicker for a Faster Cycle

Eliminate Drooling Caused by Back Pressure

No More Plugged Gates

Filter & Mix Resin Before Shot Enters the Mold

Machine Shut-Off (MSO)



(800) 499-OSCO · www.oscosystems.com

MSO - MACHINE SHUT OFF



MSO - MACHINE SHUT OFF



1-800-499-OSCO

NOTE: For sizes other than shown, please contact Osco Tech Service.

OSCO° inc.

Note: The information given here should be used as a guide. A variation in growth of any nozzle from the formulation is possible due to cooling conditions or mold configuration. It is advisable to allow a margin of safety. For some very critical applications, an empirical factor may have to be obtained.

2.0

DUO-FLO FILTERS

UNFILTERED MATERIAL FLOW

(FROM MACHINE BARREL)

Filter and Mix the Resin for a More Homogeneous Melt Before the Shot Enters the Mold

Two-Stage Filtration of Contaminaints

- Totally eliminate downtime from plugged gates.
- A MUST for uninterupted service.
- Easy to clean and reuse.
- Better color mixing.



First Stage Filtering

Material Flows into the center of the core and is directed outward through the many Ø1/16" holes. The holes prevent large particles of contaminant from continuing on with the material, trapping it in the center of the core.

- Two Stages
- Linear Filtering
- More Homogeneous Melt
- **Replaceable Filter Core**

Second Stage Filtering

Material Flows over the .020" or .040" linear relief ribs and into the supply channels. The linear relief runs the entire supply channel length, preventing secondary particles from reaching the nozzle.

DUO-FLO FILTERS



							ASSEME	BLY INCLUDES
FILTER SIZE	MACHINE BARREL CAPACITY	UNIT CATALOG NUMBER	SCREEN CORE GAUGE	FILTERING AREA (SQ. IN.)	ORDER #	SCREEN CORE CATALOG NUMBER	HEATER DESCRIPTION AND CATALOG NUMBER	THERMOCOUPLE DESCRIPTION AND CATALOG NUMBER
S 00	UP TO 18	AFILA12	.020	1.037	SFS20	DAFILSCN12	BH-FIL-3530	
5-20	OUNCES	AFILA14	.040	1.265	SFS40	DAFILSCN14	DHAF03500300625048T	FTC/250-28 x 48"
B 00	18 OUNCES	AFILA22	.020	1.466	LFS20	DAFILSCN22	BH-FIL-3550	DUF250280048
Б-20	AND GREATER	AFILA24	.040	1.791	LFS40	DAFILSCN24	DHAF03500501200048T	
HOW	TO ORDER							
Spe	cify: • Complete	Units - Spec	ify I Init Cat	alog Number			T I OI D I O	

Complete Units - Specify Unit Catalog Number
 Replacement Parts - Specify Part Catalog Number

For Thread Sizes Other Than Shown, Please Contact OSCO Technical Support.



Installation Instructions:

- 1.) Remove Nozzle from Machine Barrel.
- 2.) Clean Barrel threaded areas.
- 3.) Secure Filter Assembly to Machine Barrel

4.) Install and Tighten the Machine to the Duo-Flow Filter, using high heat grease on threaded areas.

5.) Connect Heater and Thermocouple (Type "J") to an adequate temperature controller. Wait for proper molding temperature to be reached at the unit and purge through.

6.) Any increase on pressure drop is an indication that the filter needs cleaning. Refer to cleaning instructions.

Cleaning Instructions:

To clean the filtering screen, remove front plug and purge machine barrel. Screen will be forced to come out. Remove plastic and contaminants from screen.

CAUTION: Before purging machine barrel, be sure filter heater is on and the plastic within, is at molten temperature.

OSCO° inc.



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CVT-20-SERIES - MULTIPLE APPLICATION

Qty.	Part #	Description
1		Seal Ring
	DMSRA0716	Seal Ring #SR-716-A
	DMSRSS0716	Seal Ring #SR-716-SS
		Main Nozzle Body
	DBCM0002A000015	MB-CVT-0215-M AFM A=1.50 Multiple
	DBCM0002A000020	MB-CVT-0220-M AFM A=2.00 Multiple
1	DBCM0002A000025	MB-CVT-0225-M AFM A=2.50 Multiple
	DBCM0002A000030	MB-CVT-0230-M AFM A=3.00 Multiple
	DBCM0002B000015	MB-CVT-0215-M F/B A=1.50 Multiple
	DBCM0002B000020	MB-CVT-0220-M F/B A=2.00 Multiple
	DBCM0002B000025	MB-CVT-0225-M F/B A=2.50 Multiple
	DBCM0002B000030	MB-CVT-0230-M F/B A=3.00 Multiple
_	· · · · · · · · · · · · · · · · · · ·	Thermosouple
1		
	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
		Nozzle Body Heater
	DHNC00500130250036H	MC-513_250W 240V 36" *N*
1	DHNC00500180200036H	MC-518_300W 240V 36" *N*
	DHNC00500230250036H	MC-523_350W 240V 36" *N*
	DHNC00500280300036H	MC-528_450W 240V 36" *N*
		Gate Needles
1	DA2020NDG	Needle-Gate-020-GNT
	DA2020NDU	Needle-FlowThru-020-GNTE
	Saa '20 C\/T / UQM	I Tips' Page For Options and Information



HSN-20-SERIES - SINGLE APPLICATION





20 CVT / HSN NOZZLE TIPS

Qty.		Part #	Description	
		<u>Ti</u> p	o Information	
		Part Number "F	BT" Full Body / "BLT" Body Less / "A	AFT" Absolute Flow
		"	SF" = STANDARD FLOW	
		ļ	RF" = RADIUS FLOW HF" = HIGH FLOW	"O" =[XXX]
	Γ	DT2020AR0380 - 060	AFT-020-CVT T=3/8 SF	.060
		DT2020AR0500 - 060	AFT-020-CVT T=1/2 SF	.060
-1		DT2020AR0750 - 060	AFT-020-CVT T=3/4 SF	.060
1		D12020AR0380 - 060 - RF	AFT-020-CV1 I=3/8 RF	.060
		DT2020AR0500 - 060 - RF	AFT-020-CVT T=1/2 RF	.060
	Std.	DT2020AR0750 - 060 - RF	AFT-020-CVT T=3/4 RF	.060
	STOCK	DT2020AT0500 - 094 - HE	ΔFT-020-CVT T=3/8 HI	.093
		DT2020AT0750 - 094 - HE	AFT-020-CVT T=3/4 HF	.093
		DT2020FR0380 -	FBT-020-CVT T=3/8	.040 / .060
		DT2020FR0500	FBT-020-CVT T=1/2	.040 / .060
		DT2020FR0750	FBT-020-CVT T=3/4	.040 / .060
		DT2020BR0380156	BLT-020-CVT T=3/8	
		DT2020AX0380 - 060	AFTX-020-CVT T=3/8 SF	.060
		DT2020AX0500 - 060	AFTX-020-CVT T=1/2 SF	.060
		DT2020AX0750 - 060	AFTX-020-CVT T=3/4 SF	.060
		DT2020AY0380 - 060 - RF	AFTX-020-CVT T=3/8 RF	.060
		DT2020AY0500 - 060 - RF	AFTX-020-CVT T=1/2 RF	.060
	Extra	D12020AY0750 - 060 - RF	AFIX-020-CVI I=3/4 RF	.060
	Stock	D12020A20380 - 094 - HF	AFTX-020-CVT T=3/8 HF	.093
		DT2020AZ0300 - 094 - HF	AFTX-020-CVT T=1/2 HF	.093
		DT2020FX0380 -	FBTX-020-CVT T=3/8	040 / 060
		DT2020FX0500 -	FBTX-020-CVT T=1/2	.040 / .060
		DT2020FX0750	FBTX-020-CVT T=3/4	.040 / .060
		BLI	FBI AFI	
			FBTX AFTX	

CVT-50-SERIES - MULTIPLE APPLICATION





HSN-50-G-SERIES - SINGLE APPLICATION

Qty.	Part #	Description
	"R" = 1/2 (5) "R" = 3/4 (7)	Main Nozzle Body
	DBCR0005000013 -	MB-HSN-0513-G A=1.37
	DBCR0005000018	MB-HSN-0518-G A=1.87
1	DBCR0005000020	MB-HSN-0520-G A=2.00
	DBCR0005000023	MB-HSN-0523-G A=2.37
	DBCR0005000025	MB-HSN-0525-G A=2.50
	DBCR0005000028	MB-HSN-0528-G A=2.87
	DBCR0005000030	MB-HSN-0530-G A=3.00
	DBCR0005000033	MB-HSN-0533-G A=3.37
	DBCR0005000035	MB-HSN-0535-G A=3.50
	DBCR0005000040	MB-HSN-0540-G A=4.00
	DBCR0005000045	MB-HSN-0545-G A=4.50
	DBCR0005000050	MB-HSN-0550-G A=5.00
	DBCR0005000060	MB-HSN-0560-G A=6.00
	L	
1		Thermocouple
	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
		Nozzle Body Heater
	DHNC006301000240036H	MC-610 250W 240V 36" *N*
1	DHNC00630150250036H	MC-615 250W 240V 36" *N*
-	DHNC00630200350036H	MC-620 350W 240V 36" *N*
	DHNC00630250350036H	MC-625 350W 240V 36" *N*
	DHNC00630300400036H	MC-630 400W 240V 36" *N*
	DHNC00630350400036H	MC-635 400W 240V 36" *N*
	DHNC00630400460036H	MC-640 460W 240V 36" *N*
	DHNC00630450460036H	MC-645 460W 240V 36" *N*
	DHNC00630500610036H	MC-650 610W 240V 36" *N*
	DHNS00630600690036H	MS-660 690W 240V 36" *H*
		Gate Needles
	DACVT00NDG0005000	Needle-Gate-050-GNT
	DACVT00NDL0005000	Needle-FlowThru-050-GNTF
	<u>See '50 CVT / HS</u>	- N Tips' Page For Options and Information



HSN-50-H-SERIES - SINGLE APPLICATION



HSN-50-P-SERIES - SINGLE APPLICATION

-	Part #	Description	
	Mair	Nozzle Body	
	"R" = 1/2 (5) "R" = 3/4 (7)		
	DBCR0005000017 -	MB-HSN-0517-P A=1 75	
	 DBCR0005000022	MB-HSN-0522-P A=2.25	-11 /1
	DBCR0005000027	MB-HSN-0527-P A=2.75	
	DBCR0005000032	MB-HSN-0532-P A=3.25	
	DBCR0005000037	MB-HSN-0537-P A=3.75	71
	DBCR0005000042	MB-HSN-0542-P A=4.25	71
	DBCR0005000052	MB-HSN-0552-P A=5.25	
	DBCR0005000062	MB-HSN-0562-P A=6.25	
	The	mocouple	50 P-SERIES NOZZLE BO
	DUA04004548Z	ATC/J 040x4.5x48° T/C "Z"	-1
	<u>N0Z</u>	zie Body Heater	
	DHNC006301000240036H	MC-610 250W 240V 36" *N*	
	DHNC00630150250036H	MC-615 250W 240V 36" *N*	
1	DHNC00630200350036H	MC-620 350W 240V 36" *N*	
	DHNC00630250350036H	MC-625 350W 240V 36" *N*	
	DHNC00630300400036H	MC-630 400W 240V 36" *N*	MINI-COIL HEATER -
l	DHNC00630350400036H	MC-635 400W 240V 36" *N*	
	DHNC00630400460036H	MC-640 460W 240V 36" *N*	
	DHNC00630450460036H	MC-645 460W 240V 36" *N*	
	DHNC00630500610036H	MC-650 610W 240V 36" *N*	
	DHNS00630600690036H	MS-660 690W 240V 36" *H*	
	Gat	e Needles	
	DACVT00NDG0005000	Needle-Gate-050-GNT	

50 CVT / HSN NOZZLE TIPS

Qty.		Part #		Descr	iptior	1
		<u>Tip lı</u>	nformation	L		
	[Part Number "FE	3T" Full Body	/ "BLT" Body	Less / "	AFT" Absolute Flow
		"S	F" = STANDA	RD FLOW		
		, "⊢ ↓ "⊢	RF" = RADIUS IF" = HIGH FL	OW	,	"O" = XXX
	Γ	DT00050CAR0500 - 080	AFT-050-	CVT T=1/2	SF	.080
_		DT00050CAR0750 - 080 DT00050CAR1000 - 080	AFT-050- AFT-050-	CVT T=3/4	SF SF	.080
<u> </u>		DT00050CAR0500 - 080 - RF	AFT-050-	CVT T=1/2	RF	.080
		DT00050CAR0750 - 080 - RF	AFT-050-	CVT T=3/4	RF	.080
	Stock	DT00050CAR1000 - 080 - RF	AF1-050-	CVTT=1/2		.080
		DT00050CAT0750 - 080	AFT-050-	CVT T=3/4	HF	.125
		DT00050CAT1000 - 080	AFT-050-	CVT T=1	HF	.125
		DT00050CFR0500	FBT-()50-CVT T=1/2	2	.040 / .060 / .080
		DT00050CFR0750	FBT-0)50-CVT T=3/4	4	.040 / .060 / .080
		DT00050CFR1000	FBT	050-CVT T=1		.040 / .060 / .080
		D100050CBR0380 - 250	BLI-	$\frac{150-CVI}{0}$	3	.250
		DT00050CAX0500 - 075	AFTX-05	0-CVT T=1/2 0-CVT T=3/4	SF	080
		DT00050CAX1000 - 075	AFTX-05	0-CVT T=1	SF	.080
		DT00050CAY0500 - 080 - RF	AFTX-05	0-CVT T=1/2	RF	.080
		DT00050CAY0750 - 080 - RF	AFTX-05	0-CVT T=3/4	RF	.080
	Extra	DT00050CAY1000 - 080 - RF	AFTX-05	0-CVT T=1	RF	.080
	SLOCK	DT00050CAZ0500 - 075	AFTX-05	0-CVT T=1/2	HF	.125
		DT00050CA20750 - 075	AFTX-05	0-CVT T=3/4		.125
		DT00050CFX0500 -	FBTX-	050-CVT T=1	/2	040 / 060 / 080
		DT00050CFX0750 -	FBTX-	050-CVT T=3	/4	.040 / .060 / .080
		DT00050CFX1000	FBTX	(-050-CVT T=	1	.040 / .060 / .080
		BLT	FBT	AFT		
		F	BTX	AFTX		

CVT-100-SERIES - MULTIPLE APPLICATION

Qty.	Part #	Description
		Seal Ring
1	DMSBA0916	Seal Ring #SR-916-A
	DMSRSS0916	Seal Ring #SR-916-SS
		Main Nozzle Body
	DBCM0010000020	MB-CVT-1020-M A=2.00 Multiple
	DBCM0010000025	MB-CVT-1025-M A=2.50 Multiple
1	DBCM001000030	MB-CVT-1030-M A=3.00 Multiple
	DBCM001000035	MB-CVT-1035-M A=3.50 Multiple
	DBCM0010000040	MB-CVT-1040-M A=4.00 Multiple
	DBCM0010000045	MB-CVT-1045-M A=4.50 Multiple
	DBCM0010000050	MB-CVT-1050-M A=5.00 Multiple
	DBCM001000060	MB-CVT-1060-M A=6.00 Multiple
	DBCM0010000070	MB-CVI-1070-M A=7.00 Multiple
1		Thermocouple
	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
	DUA04008072Z	ATC/J 040x12x72" T/C *Z*
		-
		Nozzle Body Heater
	DHNC00870150275048H	MC-815 275W 240V 36" *N*
	DHNC00870200400048H	MC-820 400W 240V 48" *N*
	DHNC00870250460048H	MC-825 460W 240V 48" *N*
	DHNC00870300460048H	MC-830 460W 240V 48" *N*
	DHNC00870350610048H	MC-835 610W 240V 48" *N*
	DHNC00870400610048H	MC-840 610W 240V 48" *N*
1	DHNS00870450690048H	MS-845 690W 240V 48" *H*
-	DHNS00870500690048H	MS-850 690W 240V 48" *H*
	DHNS00870600800048H	MS-860 800W 240V 48" *H*
	DHNS00870700800048H	MS-870 800W 240V 48" *H*
		Gate Needles
	DACVT00NDG0010000	Needle-Gate-100-GNT
1	DACVT00NDL0010000	Needle-FlowThru-100-GNTF
	<u>See '100 CVT / HS</u>	N Tips' Page For Options and Information

HSN-100-G-SERIES - SINGLE APPLICATION

HSN-100-H-SERIES - SINGLE APPLICATION

Qty.	Part #	Description
1		Head Heater
-	DHMT01750120300048W	MBHT-1712 650W 240V 48" *W*
		Nozzle Head Thermocouple
1	DUA040045407	
	DUA040045482	ATC/J 040x4.5x48 T/C "Z"
	"R" = 1/2 (5) "R" = 3/4 (7)	Main Nozzle Body
	DBCS0010000013	MB-HSN-1013-H A=1.37
	DBCS0010000018	MB-HSN-1018-H A=1.87
1	DBCS0010000020	MB-HSN-1020-H A=2.00
1	DBCS0010000023	MB-HSN-1023-H A=2.37
	DBCS0010000025	MB-HSN-1025-H A=2.50
	DBCS0010000028	MB-HSN-1028-H A=2.87
	DBCS0010000030	MB-HSN-1030-H A=3.00
	DBCS0010000033	MB-HSN-1033-H A=3.37
	DBCS0010000035	MB-HSN-1035-H A=3.50
	DBCS0010000040	MB-HSN-1040-H A=4.00
	DBCS0010000045	MB-HSN-1045-H A=4.50
	DBCS0010000050	MB-HSN-1050-H A=5.00
	DBCS001000060	MB-HSN-1060-H A=6.00
		MB-HSN-1070-H A=7.00
1		Thermocouple
•	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
	DUA04008072Z	ATC/J 040x12x72" T/C *Z*
		- - <u>Nozzle Body Heater</u>
1	DHNC00870150275048H	MC-815 275W 240V 36" *N*
I	DHNC00870200400048H	MC-820 400W 240V 48" *N*
	DHNC00870250460048H	MC-825 460W 240V 48" *N*
	DHNC00870300460048H	MC-830 460W 240V 48" *N*
	DHNC00870350610048H	MC-835 610W 240V 48" *N*
	DHNC00870400610048H	MC-840 610W 240V 48" *N*
	DHNS00870450690048H	MS-845 690W 240V 48" *H*
	DHNS00870500690048H	MS-850 690W 240V 48" *H*
	DHNS00870600800048H	MS-860 800W 240V 48" *H*
	DHNS00870700800048H	MS-870 800W 240V 48" *H*
1		- Gate Needles
	DACVT00NDG0010000	Needle-Gate-100-GNT
	DACVT00NDL0010000	Needle-FlowThru-100-GNTF
	See '100 CVT / HSM	Tips' Page For Options and Information

100 CVT / HSN NOZZLE TIPS

		<u>Tip Info</u>	<u>rmation</u>		
г					
		Part Number "FB1"	' Full Body / "BL	I" Body Less / "	AFI" Absolute Flow
			'SF" = STANDAF 'RF" = RADIUS F 'HE" = HIGH ELC		
	Г	DT00100CAB0500 - 125	AFT-100-CV	TT=1/2 SF	125
		DT00100CAR0750 - 125	AFT-100-CV	T T=3/4 SF	.125
		DT00100CAR1000 - 125	AFT-100-CV	TT=1 SF	.125
		DT00100CAS0500 - 125	AFT-100-CV	T T=1/2 RF	.125
	Std	DT00100CAS0750 - 125	AFT-100-CV	TT=1 RF	125
	Stock	DT00100CAT0500 - 125	AFT-100-CV	T T=1/2 HF	.187
		DT00100CAT0750 - 125	AFT-100-CV	T T=3/4 HF	.187
		DT00100CAT1000 - 125	AFT-100-CV	TT=1 HF	.187
		DT00100CFR0500	FBT-100-	CVT T=1/2	.050 / .080 / .125
		DT00100CFR0750	FBT-100-	CVT T=3/4	.050 / .080 / .125
		DI00100CFR1000	FBT-100	-CVT T=1	.050 / .080 / .125
		DT00100CBR0500375	BL1-100-CV1	I=1/2 U=.375	125
		DT00100CAX0500 - 075	AFTX-100-C	VT T=1/2 SF	.125
		DT00100CAX1000 - 075	AFTX-100-C	VT T=1 SF	.125
		DT00100CAY0500 - 075	AFTX-100-C	VT T=1/2 RF	.125
		DT00100CAY0750 - 075	AFTX-100-C	VT T=3/4 RF	.125
		DT00100CAY1000 - 075	AFTX-100-C	VT T=1 RF	.125
	Extra	DT00100CAZ0500 - 075	AFTX-100-C	VT T=1/2 HF	.187
	Stock	D100100CAZ0750 - 075	AFTX-100-C	VII=3/4 HF	.187
		DT00100CA21000 - 075	FBTX-100-C	-CVT T=1/2	.187
		DT00100CFX0750 -	FBTX-100	-CVT T=3/4	.050 / .080 / .125
		DT00100CFX1000	FBTX-100-	-CVT T=1	.050 / .080 / .125
				6	
		BLT	FBT	AFT	
			FBTX	AFTX	

OSCO[°] inc.

CVT-200-SERIES - MULTIPLE APPLICATION

	Description	Part #
	l Ring	<u>`</u>
	Seal Ring #SR-1116-A	DMSRA1116
	Seal Ring #SR-1116-SS	DMSRSS1116
	n Nozzle Body	
TUEDMOOOU	MB-CVT-2030-M "A" - 3 000	AZCV/TB2030
THERMOCOUN	MB-CVT-2040-M "A" = 4,000	AZCVTB2040
	MB-CVT-2050-M "A" = 5.000	AZCVTB2050
	MB-CVT-2060-M "A" = 6.000	AZCVTB2060
	MB-CVT-2070-M "A" = 7.000	AZCVTB2070
	MB-CVT-2080-M "A" = 8.000	AZCVTB2080
	MB-CVT-2090-M "A" = 9.000	AZCVTB2090
	MB-CVT-2100-M "A" = 10.000	AZCVTB2100
	rmocouple	· ·
	ΔTC/1040×45×48" T/C *7*	DUA040045487
	ATC/1 040x4.3x48 T/C 2	DUA040043482
	ATC/J 040x10x70" T/C *7*	DUA040000402
	ATC/1 040x18x72" T/C *7*	DUA040180727
	zzle Body Heater (Mini-Coil)	
	MS-15030 700W 240V 60" *H*	DHNS01500300700060H
	MS-15040 700W 240V 60" *H*	DHNS01500400700060H
	MS-15050 830W 240V 60" *H*	DHNS01500500830060H
MINI-COIL H	MS-15060 830W 240V 60" *H*	DHNS01500600830060H
	MS-15070 1050W 240V 60" *H*	DHNS01500701050060H
	MS-15080 1050W 240V 60" *H*	DHNS01500801050060H
	MS-15090 1150W 240V 60" *H*	DHNS01500901150060H
	MS-15100 1300W 240V 60" *H*	DHNS01501001300060H
	nocouple (Mineral Band Heater) (Optional)	<u></u>
	NTC/J 8-32x048" T/C *W*	DUN00832048
	NTC/J 8-32x072" T/C *W*	DUN00832072
	NTC/J 8-32x120" T/C *W*	DUN00832120
	zle Body Heater (Mineral Band) (Optional)	
	MBHT-1510 400W 240V 48" *W*	DHMT01500100400048W
	MBH-1515 340W 240V 12" *W*	DHMB01500150340012W
	MBH-1520 475W 240V 12" *W*	DHMB01500200475012W
(MBH-1525 600W 240V 12" *W*	DHMB01500250600012W
	MBH-1530 700W 240V 12" *W*	DHMB01500300700012W
	MBH-1535 850W 240V 12" *W*	DHMB01500350850012W
		DHMB01500400975012W
THE	MBH-1540 975W 240V 12" ^W^	
THE USED WITH B	<u>MBH-1540 975W 240V 12" *W*</u>	
THE USED WITH B	MBH-1540 975W 240V 12" *W* e Needles	DACVT00NDG0020000

SEAL RING

HSN-200-G-SERIES - SINGLE APPLICATION

	Qty.	Part #	Description	
		M	ain G-Style Nozzle Body	
		R = 1/2 (5) R = 3/4 (7)		
\backslash		AZHSNB2030G	MB-HSN-2030-G A=3.00	
	1	AZHSNB2050G -	MB-HSN-2040-G A=4.00	
	I	AZHSNB2060G -	MB-HSN-2050-G A=5.00	
		AZHSNB2070G -	MB-HSN-2070-G A=7.00	
		AZHSNB2080G -	MB-HSN-2080-G A=8 00	
		AZHSNB2090G -	MB-HSN-2090-G A=9.00	
		AZHSNB2100G	MB-HSN-2100-G A=10.00	
		Thermocouple		
	1	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*	
		DUA04008048Z	ATC/J 040x08x48" T/C *Z*	
		DUA04012072Z	ATC/J 040x12x72" T/C *Z*	
		DUA04018072Z	ATC/J 040x18x72" T/C *Z*	
		<u> </u>	lozzle Body Heater (Mini-Coil)	
6		DHNS01500300700060H	MS-15030 700W 240V 60" *H*	
		DHNS01500400700060H	MS-15040 700W 240V 60" *H*	
	1	DHNS01500500830060H	MS-15050 830W 240V 60" *H*	
		DHNS01500600830060H	MS-15060 830W 240V 60" *H*	
		DHNS01500701050060H	MS-15070 1050W 240V 60" *H*	
		DHNS01500801050060H	MS-15080 1050W 240V 60" *H*	
		DHNS01500901150060H	MS-15090 1150W 240V 60" *H*	
		DHNS01501001300060H	MS-15100 1300W 240V 60" ^H^	
		DUN00832048	NTC/J 8-32x048" T/C *W*	
		DUN00832072	NTC/J 8-32x072" T/C *W*	
		DUN00832120	NTC/J 8-32x120" T/C *W*	
		<u> </u>	lozzle Body Heater (Mineral Band) Optional	
		DHMB01500150340012W	MBH-1515 340W/ 240V 48 W	
		DHMB01500200475012W	MBH-1520 475W 240V 12 VV	
		DHMB01500250600012W	MBH-1525 600W 240V 12" *W*	
		DHMB01500300700012W	MBH-1530 700W 240V 12" *W*	
		DHMB01500350850012W	MBH-1535_850W 240V 12" *W*	
		DHMB01500400975012W	MBH-1540 975W 240V 12" *W*	
			Gate Needles	
\mathbf{V}	1	DACVT00NDG0020000	Needle-Gate-200-GNT	
		DACVT00NDL0020000	Needle-FlowThru-200-GNTF	
GNT GNF		L See '200 CVT / HSN 1	ips' Page For Options and Information	

HSN-200-H-SERIES - SINGLE APPLICATION

Qty.	Part #	Description
	Head Screws	
4	DF040009005A	
		Seal Ring
-	DMSBA1516	Seal Bing #SB-1516-A
	DMSRSS1516	Seal Ring #SR-1516-SS
-		Head Heater
1	DHMT02750150850048W	MBHT-2715 850W 240V 48" *W*
		Nozzle Head Thermocouple
1		
-	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	R = 1/2 (5)	Main H-Style Nozzle Body
	R = 3/4 (7)	
	AZHSNLB2030H	MB-HSN-2030-H A=3.00
	AZHSNLB2040H	MB-HSN-2040-H A=4.00
1	AZHSNLB2050H	MB-HSN-2050-H A=5.00
	AZHSNLB2060H	MB-HSN-2060-H A=6.00
	AZHSNLB2070H	MB-HSN-2070-H A=7.00
	AZHSNLB2080H	MB-HSN-2080-H A=8.00
	AZHSNLB2090H	MB-HSN-2090-H A=9.00
	AZHSNLB2100H	MB-HSN-2100-H A=10.00
		Nozzle Body Thermocouple
1	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
	DUA04012072Z	ATC/J 040x12x72" T/C *Z*
	DUA04018072Z	ATC/J 040x18x72" T/C *Z*
		Nozzle Body Heater (Mini-Coil)
	DHNS01500300700060H	MS-15030 700W 240V 60" *H*
1	DHNS01500400700060H	MS-15040 700W 240V 60" *H*
	DHNS01500500830060H	MS-15050 830W 240V 60" *H*
	DHNS01500600830060H	MS-15060 830W 240V 60" *H*
	DHNS01500701050060H	MS-15070 1050W 240V 60" *H*
	DHNS01500801050060H	MS-15080 1050W 240V 60" *H*
	DHNS01500901150060H	MS-15090 1150W 240V 60" *H*
	DHNS01501001300060H	MS-15100 1300W 240V 60" "H"
		barmacouple (Minaral Band Heater) (Ontional)
	DUN00832048	NTC/J 8-32x048" T/C *W*
	DUN00832072	NTC/J 8-32x072" T/C *W*
	DUN00832120	NTC/J 8-32X120° 1/C "W"
	N	Jozzla Body Hastor (Mineral Band) Ontional
	DHM101500100400048W	MBH1-1510 400W 240V 48 "W"
	DHMB01500700012W	MBH 1520 700W 240V 12 W
	DHMB01500400975012W	MBH-1540 975W 240V 12 *W*
	DHMB01500200475012W	MBH-1520_475W 240V 12" *W*
	DHMB01500250600012W	MBH-1525 600W 240V 12" *W*
	DHMB01500300700012W	MBH-1530 700W 240V 12" *W*
	DHMB01500350850012W	MBH-1535 850W 240V 12" *W*
	DHMB01500400975012W	MBH-1540 975W 240V 12" *W*
		-
		- Gate Needles
1		
	<u>See '200 CVT / HSI</u>	N Tips' Page For Options and Information

200 CVT / HSN NOZZLE TIPS

Qty.		Part #	Description	1
		Part Number	"FBT" Full Body / "BLT" Body	Less / "AFT" Absolute Flow
			"SF" = STANDARD FLOW "RF" = RADIUS FLOW "HF" = HIGH FLOW	"O" = XXX
	l r	DT00200CAR0750 - 187	AFT-200-CVT T=3/4 SF	.187
		DT00200CAR1000 - 187	AFT-200-CVT T=1 SF	.187
1	Stock	DT00200CAS0750 - 187	AFT-200-CVT T=3/4 RF	.187
<u> </u>		DT00200CAS1000 - 187	AFT-200-CVT T=1 RF	.187
		DT00200CAT0750 - 187	AFT-200-CVT T=3/4 HF	.250
		DT00200CAT1000 - 187	AFT-200-CVT T=1 HF	.250
		DT00200CFR0750	FBT-200-CVT T 1	.080 / .120 / .150
	L	DT00200CBB0750500	BI T200-CVT T=3/4 O= 500	.0807.1207.130
	Г	DT00200CAX0750 - 075	AFTX-200-CVT T=3/4 EX =3/4 S	SF 187
		DT00200CAX1000 - 075	AFTX-200-CVT T=1 EX=3/4 S	SF .187
	Extra	DT00200CAY0750 - 075	AFTX-200-CVT T=3/4 EX=3/4 F	RF .187
	Stock	DT00200CAY1000 - 075	AFTX-200-CVT T=1 EX=3/4 F	RF .187
		DT00200CAZ0750 - 075	AFTX-200-CVT T=3/4 EX.=3/4	HF .250
		DT00200CAZ1000 - 075	AFTX-200-CVT T=1 EX=3/4	HF .250
		DT00200CFX0750	FBTX-200-CVT T=3/4 EX=3/4	.080 / .120 / .150
	L	DT00200CFX1000	FBTX-200-CVT T=1 EX=3/4	.080 / .120 / .150
		BLT I	-BT AFT	
		F	BTX AFTX	

MINI-MGN SERIES - MULTIPLE GATE NOZZLES

	Part #	Description
		MGN Cap Betainer Screws
3 or 4		
	DF080005005A	LITSUS #10-24NC X 5/6
	г н	Head Heater
	- DHMT02500100400048W	MBHT-2510_400W 240V 48" *W*
1	DHMT02750100850048W	MBHT-2710 500W 240V 48" *W*
	DHMT03000100600048W	MBHT-3010 600W 240V 48" *W*
1	# of Probes —	<u>Mini-MGN Cap</u>
		MINI MCN Cap SubAccomply D. 1 50 (Specify # of system)
	AZMMGNC175 -	$\frac{1}{100} = 1.50 \text{ (Specify # of probes)}$
	AZMMGNC200 -	MINI-MGN-Cap SubAssembly D=2.00 (Specify # of probes)
1	<u> </u>	IGN Thermocouple
<u> </u>	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	,	
	<u> </u>	Mini-MGN Probe Heaters
# of	DHT900250150090036H	TCH-2150-90 90W 240V 36" *N*
Probes	DHT900250200145036H	TCH-2200-90 145W 240V 36" *N*
	N	Mini-MGN Probes
# of	DAMGNPBMINI002000	Probe-MGN-Mini 200
# of Probes	DAMGNPBMINI002000 DAMGNPBMINI002500	Probe-MGN-Mini 200 Probe-MGN-Mini 250
# of Probes	DAMGNPBMINI002000 DAMGNPBMINI002500	Probe-MGN-Mini 200 Probe-MGN-Mini 250
# of Probes	DAMGNPBMINI002000 DAMGNPBMINI002500	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body
# of Probes 1	# of Probes	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body
# of Probes 1	# of Probes	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes)
# of Probes 1	# of Probes	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes)
# of Probes	# of Probes	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes)
# of Probes	# of Probes	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes)
# of Probes	DAMGNPBMINI002000 DAMGNPBMINI002500 # of Probes AZMMGNB15	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes)
# of Probes	AZMMGNB15 AZMMGNB15 AZMMGNB17 AZMMGNB20	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes)
# of Probes 1	DAMGNPBMINI002000 DAMGNPBMINI002500 # of Probes AZMMGNB15 AZMMGNB17 AZMMGNB20 # of Probes DAMGNSLRNG0050000	Probe-MGN-Mini 200 Probe-MGN-Mini 250 Mini-MGN Main Body MINI-MGN-Body SubAssembly-1500 (Specify # of Probes) MINI-MGN-Body SubAssembly-1700 (Specify # of Probes) MINI-MGN-Body SubAssembly-2000 (Specify # of Probes) MGN - Stainless Seal Ring-1/2" ID (Specify # of probes)

MGN SERIES - MULTIPLE GATE NOZZLES

SCV-100 SERIES - PARTS LIST

Det.	Qty.	Part #	Description
20	4	DF070010006A	5/16-18NC x 3/4" Lg Flat Head S.C.S.
19	1	DASCV000LR0000100	Locating Ring - SCV 100 - 4.00"
18	1	DHMT02000200630048W	MBHT-2020B - Band Heater w/ T/C - 48" Lead
17	3	DF040009007A	1/4-28-NF x .875" Lg S.H.C.S
16	1	AZSCVMBU15	SCV-100 Nozzle Body Upper - "R" = 1/2" or 3/4"
15	1	DF050003003A	#6-32NF x 5/16" Lg B.H.S.C.S.
14	1	DAGEN00RCG0000100	Cross Gear Retainer / SCV-100
13	2	DAGEN0CGNB0000100	Cross Gear Needle Bearing / SCV-100
12	1	DAGEN000CG0000100	Cross Gear / SCV-100
11	1	AZVAR100	Actuating Rod / SCV-100 (Finished) (Need: "C" Dim. = or "OAL" =)
10	1	DBSCVMBU100B	SCV - 100 Upper Nozzle Body Bushing (Furnished in Upper Nozzle Kit or factory installed.)
9	1	AZVPS100	SCV Valve Pin / 100 Series / Ø.125" (Need: "A" Length = + "O" Dim. =)
8	1	DASCV00RPB0010000	Retainer - Pin Bushing - SCV - 100
7	1	DASCV000PB0010000 DASCV000PB00100HP	Pin Bushing - SCV - 100 Pin Bushing - SCV - 100 Hardened
6	1	DMSRA0716 DMSRSS0716	Seal Ring - SR-716 - Aluminum Seal Ring - SR-716 - Stainless Steel
5	1	DBSL001000 XXX	MB - SCV - 100 Nozzle Body Lower (Nozzle "A" Length, Original Order Number P-XXXXX
4	1	DUA040045 <u>48</u> Z DUA040080 <u>48</u> Z DUA040120 <u>72</u> Z	ATC-J Thermocouple (48" or 72" Leads)
3	1	DAVGN000PG0010000 DASCV00HTB0010000	Pin Guide - VGN - 50 Heat Transfer Bushing - SCV - 100 (BLT Only)
2a	1	DT00050VFR <u>XXXXXXX</u> DT00050VBR <u>0500</u>	FBT-50-VGN (Need: "T" = + "O" =) BLT-50-VGN
2b		DT00050VFX <u>XXXXXXX</u>	FBTX-50-VGN (Need: "T" = + "O" =)
1	1	DHNC00630XXXXXXX36H	Mini Coil Heater / MC-6 <u>XX</u> .625 I.D. x Length (Determined by "A" Dim.)

SCV-200 SERIES - PARTS LIST

SCV-400 SERIES - PARTS LIST

Det.	Qty.	Part #	Description
20	4	DF070010006A	5/16-18NC x 3/4" Lg Flat Head S.C.S.
19	1	DASCV000LR0004000	Locating Ring - SCV - 4.00"
18	1	DHAS03000251300036W	BH-SCV-3025 - Band Heater w/ T/C - 36" Lead
17	3	DF040010016A	5/16-18NC x 2" Lg S.H.C.S
16	1	AZSCVMBU45	SCV-400 Nozzle Body Upper - "R" = 1/2" or 3/4"
15	1	DF040005005A	#10-24NF x 5/8" Lg S.H.C.S.
14	1	DAGEN00RCG0000000	Cross Gear Retainer
13	2	DAGEN0CGNB0000000	Cross Gear Needle Bearing
12	1	DAGEN000CG0000000	Cross Gear
11	1	AZVAR	Actuating Rod (Finished) (Need: "C" Dim. = or "OAL" =)
10	1	DASCV0UNBB0000000	SCV Upper Nozzle Body Bushing (Furnished in Upper Nozzle Kit or factory installed.)
9	1	AZVPS400	SCV Valve Pin / 400 Series / Ø.375" (Need: "A" Length = + "O" Dim. =)
8	1	DASCV00RPB0040000	Retainer - Pin Bushing - SCV - 400
7	1	DASCV000PB0040000 DASCV000PB00400HP	Pin Bushing - SCV - 400 Pin Bushing - SCV - 400 - Hardened
6	1	DMSRA1116 DMSRSS1116	Seal Ring - SR-1116 - Aluminum Seal Ring - SR-1116 - Stainless Steel
5	1	DBSL004000 XXX	MB - SCV - 400 Nozzle Body Lower (Nozzle "A" Length, Original Order Number P-XXXXX)
4	1	DUN00832 <u>048</u> OR <u>072</u>	NTC - 832 Thermocouple (48" or 72" Leads)
3a 3b	1	DASCV000PG0040000 DASCV00HTB0040000	Pin Guide - SCV - 400 Heat Transfer Bushing - SCV - 400 (BLT Only)
2a	1	DT00400SFR <u>XXXXXXX</u> DT00400SBR1000750	FBT-400-SCV (Need: "T" = + "O" =) BLT-400-SCV
2b		DT00400SFX <u>XXXXXXX</u>	FBTX-400-SCV (Need: "T" =+ "O" =)
1	*	DHMB02000 <u>XXXXXXX</u> W	Mineral Insulated Band Heater MBH-20 <u>XX</u> 2.00" I.D. x Length (Determined by "A" Dim.)

OSCO° inc.

DSV 500 SERIES - PARTS LIST

Det.	Qty.	Part #	Description	
25	4	DF070010006A	5/16-18NC x 3/4" Lg Flat Head S.C.S.	
24	1	CDALR	Locating Ring - DSV	
23	1	DHMB02000100350020W	MBH-2010 - Band Heater - 20" Lead	
22	4	DF040009008A	1/4-28NF x 1.00" Lg S.H.C.S.	
21	1	DADSV00RDC050	DSV - 500 Nozzle Body Upper Cap - "R" = 1/2" or 3/4"	
20	1	DHAD03750352500050W	BH-DSV-3735 - Band Heater - 50" Lead	
19	4	DF040010016A	5/16-18NC x 2" Lg S.H.C.S	
18	1	DMSRA1216 DMSRSS1216	#SR-1216-A SEAL RING - ALUMINUM #SR-1216-SS SEAL RING - STAINLESS STEEL	
17	1	AZDSVMBU50	DSV-500 Nozzle Body Upper	
16	2	DF070005005A	#10-24NC x 5/8" Lg Flat Head S.C.S.	
15	2	DAGEN00RCG0000000	Cross Gear Retainer	
14	4	DAGEN0CGNB0000000	Cross Gear Needle Bearing	
13	2	DAGEN000CG0000000	Cross Gear	
12	2	AZVAR	Actuating Rod (Finished) (Need: "C" Dim. = or "OAL" =)	
11	1	DADSV0UNBB0000000	DSV Upper Nozzle Body Bushing (Furnished in Upper Nozzle Kit or factory installed.)	
10	1	DADSV00PSB0050300 DADSV00PSB0050500	Pin Seal Bushing - Ø3/8" - DSV - 500 Pin Seal Bushing - Ø9/16" - DSV - 500	
9	1	AZVPD500	DSV Valve Pin / 500 Series (Finished) (Need: "A" Length = + "O" Dim. =) Dia.: Std. = Ø3/8" (Ø.375") Option: Ø9/16" (Ø.562")	
8	1	DADSV00RPB0050000	Retainer - Pin Bushing - DSV - 500	
7	1	DADSV000PB00503-HP DADSV000PB0050500 DADSV000PB00505-HP	Pin Bushing - Ø3/8" - DSV - (Hardened) Pin Bushing - Ø9/16" - DSV Pin Bushing - Ø9/16" - DSV (Hardened)	
6	2	DMSRA916 DMSRSS916	Seal Ring - SR-916 - Aluminum Seal Ring - SR-916 - Stainless Steel	
5	1	DBDL005000 <u>XXX</u>	MB - DSV - 500 Nozzle Body Lower (Nozzle "A" Length, Original Order Number P-XXXXX)	
4	2	DUN00832 <u>048</u> OR <u>072</u>	NTC/J - 832 Thermocouple (48" or 72" Leads)	
3a 3b	1	DADSV000PG0050300 DADSV000PG0050500 DADSV00HTB0050000	Pin Guide - DSV - 500 - Ø3/8" Pin Guide - DSV - 500 - Ø9/16" Heat Transfer Bushing - DSV - 500 (BLT Only)	
2a 2b	4	DT00500DFR <u>XXXXXXX</u> DT00500DBR1250875	FBT-500-DSV (Need: "T" = + "O" =) BLT-500-DSV	
	I	DT00500SFX <u>XXXXXXX</u>	FBTX-500-DSV (Need: "T" = + "O" =)	
1	1	DHMB02000 <u>XXXXXXX</u> W	Mineral Insulated Band Heater MBH-20 <u>XX</u> 2.00" I.D. x Length (Determined by "A" Dim.)	

VGN-50 SERIES - MANIFOLD SYSTEM

Qty.	Part #	Description
		Valve Pin Retainer
1	DAVGN00RVP0005000	Retainer-Valve Pin-VGN-050
		Pneumatic Assembly
1		VGN-050 Air Cylinder Assy.
		<u>Seal Kit</u>
1	KCPVS050	SK-HCA-050-VGN Cyl. Seal Kit
	ļ	
		PIN BUSNING Retainer
1	DAVGNOURPB0005000	
		<u>Pin Bushing</u>
1	DAVGN000PB0005000	Pin Bushing-VGN-050
	DAVGN000PB00050HP	Pin Bushing-VGN-050 (Hardened)
		Seal Ring
1	DMSRA0916	Seal Ring #SR-916-A
	DMSRSS0916	Seal Ring #SR-916-SS
		VGN Nozzle Body -
	F = Full Body	F = Full Body
	DBV0005000020	MB-VGN-0520 A=2.00 MB-VGN-0525 A=2.50
1	DBV0005000030	MB-VGN-0520 A=3.00
I	DBV0005000035	MB-VGN-0535 A=3.50
	DBV 0005000040	MB-VGN-0540 A=4.00
	DBV 0005000045	MB-VGN-0545 A=4.50
	DBV 0005000050	MB-VGN-0550 A=5.00
	DBV 0005000060	MB-VGN-0560 A=6.00
		Thermocouple
1	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
		VGN Nozzle Body Heater
	DHNC00630100250036H	MC-610 250W 240V 36" *N*
	DHNC00630150250036H	MC-615 250W 240V 36" *N*
	DHNC00630200350036H	MC-620 350W 240V 36" *N*
	DHNC00630250350036H	MC-625 350W 240V 36" *N*
	DHNC00630300400036H	MC-630 400W 240V 36" *N*
	DHNC00630350400036H	MC-635 400W 240V 36" *N*
	DHNC00630400460036H	MC-640 460W 240V 36" *N*
4	DHNC00630450460036H	MC-645 460W 240V 36" *N*
- 1	DHNC00630500610036H	MC-650 610W 240V 36" *N*
	DHNS00630600690036H	MS-660 690W 240V 36" *H*
		Valve Pin
1	AZVPV050	Valve Pin-VGN-050 Need: "OAL" "O" Dim
		Valve Pin Guide
	DAVGN000PG0005000	Pin Guide-VGN-050
	L	
		Heat Transfer Bushing (BLV Only)
1	DAVGN00HTB0005000	Heat Transfer Bushing-VGN-050
· ·		
	<u>See '50 VGN Tip</u>	s' Page For Options and Information

50 VGN NOZZLE TIPS

Qty.		Part #	Description	
		Part Number		ody Less
		Ţ		"O" = XXX
	C+4	DT00050VFR05000	FBT-050-VGN T=1/2	.050 / .080
	Stock	D100050VFR07500	FBT-050-VGN T=3/4	.050 / .080
1		DT00050VFR10000	FBT-050-VGN T=1	.050 / .080
	Extra	DT00050VBR0500312	BLI-050-VGN I=1/2 U=.312	050 / 080
	Stock	DT00050VFX05000 - 75	FBTX-050-VGN T=1/2 EX=3/4	.050 / .080
		DT00050VFX07500 - 75	FBTX-050-VGN T=3/4 EX=3/4	.050 / .080
		D100050VI X10000 - 75	1 B1X-030-VGIN 1=1 EX=3/4	.0307.000
		BLT	FBT	
			FBTX	

VGN-100 SERIES - MANIFOLD SYSTEM

Qty.	Part #	Description
		Valve Pin Retainer
1	DAVGN00RVP0010000	Retainer-Valve Pin-VGN-100
	· · · · · · · · · · · · · · · · · · ·	
		Cylinder Assembly
	ACPV100	VGN-100 Air Cylinder Assy.
	ACHV100	VGN-100 Hyd. Cylinder Assy.
		- <u>Seal Kit</u>
	KCPVS100	SK-PCA-100-VGN Cyl. Seal Kit
1	KCHVS100	SK-HCA-100-VGN Cyl. Seal Kit
		Pin Bushing Retainer
1	DAVGN00RPB0010000	Retainer-Pin Bushing-VGN-100
<u> </u>		
		Pin Bushing
	DAVGN000PB0010000	Pin Bushing-VGN-100
	DAVGN000PB00100HP	Fin Busining-VGN-100 (hardened)
		- Seal Ring
	DMSRA1116	Seal Ring #SR-1116-A
	DMSRSS1116	Seal Ring #SR-1116-SS
		- VGN Nozzle Body
	B = Body Less	$\mathbf{B} = \operatorname{Body}$
	DBV 10000020	MB-VGN-1020 A=2.00
	DBV10000025	MB-VGN-1025 A=2.50
1	DBV10000030	MB-VGN-1030 A=3.00
	DBV - 10000035	MB-VGN-1033 A=3.30 MB-VGN-1040 A=4.00
	DBV 10000045	MB-VGN-1045 A=4.50
	DBV10000050	MB-VGN-1050 A=5.00
	DBV10000060	MB-VGN-1000 A=6.00 MB-VGN-1070 A=7.00
1		Inermocouple
	DUA04004548Z	AIC/J 040x4.5x48" I/C *Z*
	DUA04012072Z	ATC/J 040x12x72" T/C *Z*
		- NCN Nazzla Dady Haatar
	 	VGN NOZZIE BODY Healer
	DHNC00870200400048H	MC-820 400W 240V 48" *N* MC-825 460W 240V 48" *N*
	DHNC00870300460048H	MC-830 460W 240V 48" *N*
	DHNC00870350610048H	MC-835 610W 240V 48" *N*
	DHNC00870400610048H	MC-840 610W 240V 48" *N*
	DHNS00870450690048H DHNS00870500690048H	MS-845 690W 240V 48" "H" MS-850 690W 240V 48" "H*
1	DHNS00870600800048H	MS-860 800W 240V 48" *H*
	DHNS00870700800048H	MS-870 800W 240V 48" *H*
		Valve Pin
	AZVPV100	
	<u> </u>	- Valve Pin Guide
1		<u>vaive i in Guide</u>
	DAVGN000PG0010000	Pin Guide-VGN-100
		- Heat Transfer Bushing (BLV Only)
1	DAVGN00HTB0010000	Heat Transfer Bushing-VGN-100
	See '100 VGN Tips	s' Page For Options and Information

OSCO° inc.
100 VGN NOZZLE TIPS

Qty.		Part #	Descriptio	n
		Part Number		ody Less
				"O" =[XXX]
			FBT-100-VGN T=1/2	.080 / .125
	Std.	DT00100VFR0750	FBT-100-VGN T=3/4	.080 / .125
1	STOCK	DT00100VFR1000	FBT-100-VGN T=1	.080 / .125
	1	DT00100VBR0630437	BLT-100-VGN T=5/8 O=.437	
	Extra	DT00100VFX05000 - 75	FBTX-100-VGN T=1/2 EX=3/4	.080 / .125
	Stock	DT00100VFX07500 - 75	FBTX-100-VGN T=3/4 EX=3/4	.080 / .125
		DT00100VFX10000 - 75	FBTX-100-VGN T=1 EX=3/4	.080 / .125
				\mathbf{N}
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VGN-200 SERIES - MANIFOLD SYSTEM

Qty.	Part #	Description
		Valve Pin Retainer
1	DAVGN00RVP0020000	Retainer-Valve Pin-VGN-200
		- Cylinder Assembly
	ACPV200	VGN-200 Air Cylinder Assy.
1	ACHV200	VGN-200 Hyd. Cylinder Assy.
		- Seal Kit
	KCPVS200	SK-PCA-200-VGN Cyl. Seal Kit
1	KCHVS200	SK-HCA-200-VGN Cyl. Seal Kit
		Pin Bushing Retainer
1	DAVGN00RPB0020000	Retainer-Pin Bushing-VGN-200
1		Pin Bushing
-	DAVGN000PB0020000 DAVGN000PB00200HP	Pin Bushing-VGN-200 Pin Bushing-VGN-200 (Hardened)
1		<u>Seal Ring</u>
-	DMSRA1516	Seal Ring #SR-1516-A
	DMISH331510	Searning #one-to-to-oo
	F = Full Body	VGIN NOZZIE BODY
	B = Body Less	;
	DBV0020000040	MB-VGN-2040 A=4.00
1	DBV0020000050	MB-VGN-2050 A=5.00 MB-VGN-2060 A=6.00
	DBV0020000070	MB-VGN-2070 A=7.00
	DBV0020000080	MB-VGN-2080 A=8.00
	DBV0020000100	MB-VGN-2030 A=9.00 MB-VGN-2100 A=10.0
		Thermocouple
1	DUA04004548Z	ATC/J 040x4.5x48" T/C *Z*
	DUA04008048Z	ATC/J 040x08x48" T/C *Z*
	DUA04008072Z	ATC/J 040x12x72" T/C *Z*
		VGN Nozzle Body Heater
	DHNS01500300700060H	MS-15030 700W 240V 60" *H*
1	DHNS01500400700060H	MS-15040 700W 240V 60" *H*
	DHNS01500500830060H	MS-15050 830W 240V 60" ^H^ MS-15060 830W 240V 60" *H*
	DHNS01500701050060H	MS-15070 1050W 240V 60" *H*
	DHNS01500801050060H	MS-15080 1050W 240V 60" *H*
	DHNS01500901150060H DHNS01501001300060H	MS-15090 1150W 240V 60" ^H^ MS-15100 1300W 240V 60" *H*
1		
-		Valve PIn-VGN-200 (Need: OAL O')
1	DAVON000D0000000	
		Pin Guide-VGN-200
		- Heat Transfer Bushing (BLV Only)
4		Heat Transfer Bushing VON 200
	See '200 VGN Tips	S' Page For Options and Information



200 VGN NOZZLE TIPS

Qty.	Part #	Description]
	Part Number	_"FBT" Full Body / "BLT" Bod	y Less
	Std DT00200VEB0750 -	EBT-200-VGN T-3/4	0 = 150 / 250
	Stock DT00200VFR1000	FBT-200-VGN T=1	.150 / .250
1	DT00200VBR0870625	BLT-200-VGN T=7/8 O=.625	
	Extra DT00200VFX07500 - 75	FBTX-200-VGN T=3/4 EX=3/4	.150 / .250
	Stock DT00200VFX10000 - 75	FBTX-200-VGN T=1 EX=3/4	.150 / .250
	BLT	FBT	I
		FBIX	



MBHT SERIES Ø1.25 I.				
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHMT01250100250048W	MBHT-1210	250W	48"	1.00"

MBHT SERIES			Ø1.50 I.D.	
DHMT01500100400048W	MBHT-1510	400W	48"	1.00"

MBHT SERIES	ERIES		Ø1.75 I.D.	
DHMT01750120300048W	MBHT-1712	650W	48"	1.25"

MBHT SERIES			Ø2.	00 I.D.
DHMT02000200630048W	MBHT-2020	630W	48"	2.00"

MBHT SERIES				.50 I.D.
DHMT02500150800048W	MBHT-2515	800W	48"	1.50"
DHMT02500251250048W	MBHT-2525	1250W	48"	2.50"

MBHT SERIES			Ø2.	.75 I.D.
DHMT02750150850048W	MBHT-2715	850W	48"	1.50"
DHMT02750201150048W	MBHT-2720	1150W	48"	2.00"
DHMT02750251400048W	MBHT-2725	1400W	48"	2.50"

MBHT SERIES			Ø3.	.00 I.D.
DHMT03000150950048W	MBHT-3015	950W	48"	1.50"

MBHT SERIES			Ø3	.25 I.D.
DHMT03250300800048W	MBHT-3230	800W	48"	3.25"

MBHT SERIES			Ø4	.00 I.D.
DHMT04000151350048W	MBHT-4015	1350W	48"	1.50"

MBHT SERIES		Ø5.	00 I.D.	
DHMT05000151600048W	MBHT-5015	1600W	48"	1.50"

"MBHT" When you need: High Watt Density, High Temperature, Long Life

- **OSCO's** stock of mineral-insulated band heaters have been selected for the best possible results when used in an injection molding machine, or hot-drop nozzle of any configuration.
- Melt temperature required by many of the newer engineering resins are easy to obtain with MBHTs.
- MBHTs can provide more watts per square inch, than any other band.
- The unique mineral insulation used to electrically insulate the element wire from the heater's sheath has a much higher thermal conductivity than the mica and hard ceramics used in conventional heaters.
- A thin layer of 'high' thermal conductivity material separates the element wire from the inside diameter sheath of the heater.
- A thicker layer of 'low' thermal conductivity backs up the element wire, directing the heat inward towards the part being heated for efficient operation.
- The ease with which the heat flows from the element wire to the part being heated, results in a lower element wire temperature.





"MBH" When you need: High Watt Density, High Temperature, Long Life

- **OSCO's** stock of mineral-insulated band heaters have been selected for the best possible results when used in an injection molding machine, or hot-drop nozzle of any configuration.
- Melt temperature required by many of the newer engineering resins are easy to obtain with MBHs.
- MBHs can provide more watts per square inch, than any other band.
- The unique mineral insulation used to electrically insulate the element wire from the heater's sheath has a much higher thermal conductivity than the mica and hard ceramics used in conventional heaters.
- A thin layer of 'high' thermal conductivity material separates the element wire from the inside diameter sheath of the heater.
- A thicker layer of 'low' thermal conductivity backs up the element wire, directing the heat inward towards the part being heated for efficient operation.
- The ease with which the heat flows from the element wire to the part being heated, results in a lower element wire temperature.

MBH SERIES Ø1.50 I.D.				.50 I.D.
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHMB01500150340012WC	MBH-1515	340W	12"	1.50"
DHMB01500200475012WC	MBH-1520	475W	12"	2.00"
DHMB01500250600012WC	MBH-1525	600W	12"	2.50"
DHMB01500300700012WC	MBH-1530	700W	12"	3.00"
DHMB01500350850012WC	MBH-1535	850W	12"	3.50"
DHMB01500400975012WC	MBH-1540	975W	12"	4.00"

MBH SERIES Ø2.00 I.			2.00 I.D.	
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHMB02000100350020W	MBH-2010	350W	12"	1.00"
DHMB02000150475012WC	MBH-2015	475W	12"	1.50"
DHMB02000200650012WC	MBH-2020	650W	12"	2.00"
DHMB02000250800012WC	MBH-2025	800W	12"	2.50"

MBH SERIES Ø3.00 I.D			.00 I.D.	
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHMB03000200110072W	MBH-3020	1100W	72"	2.00"
DHMB03000250140072WC	MBH-3025	1400W	72"	2.50"
DHMB03000300190072W	MBH-3030	1900W	72"	3.00"

MBH SERIES			Ø4	.00 I.D.
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHMB04000200175072WC	MBH-4020	1750W	72"	2.00"
DHMB04000250215072WC	MBH-4025	2150W	72"	2.50"
DHMB04000300200072WC	MBH-4030	2000W	72"	3.00"

ALL "MBH" Heaters are 240 volt.





MINI-COIL "MC" HEATERS

20 SERIES	RIES Ø.500 I.D.			
PART #	DESCRIPTION	WATTS	LEAD	"A" DIM.
DHNC00500130250036H	MC-513	250W	36"	1.50"
DHNC00500180200036H	MC-518	300W	36"	2.00"
DHNC00500230250036H	MC-523	350W	36"	2.50"
DHNC00500280300036H	MC-528	450W	36"	3.00"

100 SERIES			Ø.87	75 I.D.
PART #	DESCRIPTION	WATTS	LEAD	"A" DIM.
DHNC00870100275048H	MC-810	275W	48"	1.00"
DHNC00870150275048H	MC-815	275W	48"	1.50"
DHNC00870200400048H	MC-820	400W	48"	2.00"
DHNC00870250460048H	MC-825	460W	48"	2.50"
DHNC00870300460048H	MC-830	460W	48"	3.00"
DHNC00870350610048H	MC-835	610W	48"	3.50"
DHNC00870400610048H	MC-840	610W	48"	4.00"
DHNS00870450690048H	MS-845	690W	48"	4.50"
DHNS00870500690048H	MS-850	690W	48"	5.00"
DHNS00870600800048H	MS-860	800W	48"	6.00"
DHNS00870700800048H	MS-870	800W	48"	7.00"

High Performance

- The flat, rectangular "MC / MS" heater provides more contact with the hot runner nozzle, than a round style heater.
- Pre-wound to the **ideal wattage distribution** for an even heat profile over the length of the hot runner nozzle.

Low Profile

•The .150" wall thickness, **flexibility** with the 'cold-zone', and winding options allow this heater to fit into smaller diameter mold-pockets not normally allowed with other style nozzle heaters.

Design Flexibility

- Extended 'cold-zone' is annealed to permit manual **field bending** to any number of applications.
- Heaters can be 'Custom Ordered' and pre-wound to any diameter between \emptyset .500" and \emptyset 1.500", with lengths up to 11.000".
- 3.000" extended 'cold-zone' separates heat and contamination from potting adapter, for longer life.

50 SERIES Ø.625 I.I			25 I.D.	
PART #	DESCRIPTION	WATTS	LEAD	"A" DIM.
DHNC006301000240036H	MC-610	250W	36"	1.00"
DHNC00630150250036H	MC-615	250W	36"	1.50"
DHNC00630200350036H	MC-620	350W	36"	2.00"
DHNC00630250350036H	MC-625	350W	36"	2.50"
DHNC00630300400036H	MC-630	400W	36"	3.00"
DHNC00630350400036H	MC-635	400W	36"	3.50"
DHNC00630400460036H	MC-640	460W	36"	4.00"
DHNC00630450460036H	MC-645	460W	36"	4.50"
DHNC00630500610036H	MC-650	610W	36"	5.00"
DHNS00630600690036H	MS-660	690W	36"	6.00"

200 SERIES			Ø1.50	00 I.D.
PART #	DESCRIPTION	WATTS	LEAD	"A" DIM.
DHNS01500300700060H	MS-15030	700W	60"	3.00"
DHNS01500400700060H	MS-15040	700W	60"	4.00"
DHNS01500500830060H	MS-15050	830W	60"	5.00"
DHNS01500600830060H	MS-15060	830W	60"	6.00"
DHNS01500701050060H	MS-15070	1050W	60"	7.00"
DHNS01500801050060H	MS-15080	1050W	60"	8.00"
DHNS01500901150060H	MS-15090	1150W	60"	9.00"
DHNS01501001300060H	MS-15100	1300W	60"	10.00"

ALL "MC / MS" MINI-COIL Heaters are 240 volt.



"BH" When you need: High Watt Density, High Temperature, Long Life

- **OSCO's** stock of mineral-insulated band heaters have been selected for the best possible results when used in an injection molding machine, or hot-drop nozzle of any configuration.
- Melt temperature required by many of the newer engineering resins are easy to obtain with BHs.
- BHs can provide more watts per square inch, than any other band.
- The unique mineral insulation used to electrically insulate the element wire from the heater's sheath has a much higher thermal conductivity than the mica and hard ceramics used in conventional heaters.
- A thin layer of 'high' thermal conductivity material separates the element wire from the inside diameter sheath of the heater.
- A thicker layer of 'low' thermal conductivity backs up the element wire, directing the heat inward towards the part being heated for efficient operation.
- The ease with which the heat flows from the element wire to the part being heated, results in a lower element wire temperature.



BH SERIES	S Ø1.00 I.D.			
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHBH01000100150012G	BH-1010	150W	12"	1.00"
DHBH01000150200012G	BH-1015	200W	12"	1.50"
DHBH01000200300012G	BH-1020	300W	12"	2.00"
DHBH01000250250012G	BH-1025	250W	12"	2.50"
DHBH01000300300012G	BH-1030	300W	12"	3.00"
DHBH01000350300012G	BH-1035	300W	12"	3.50"



DSV-BH SERIES Ø3.50 I.D.			50 I.D.	
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHAD03750352500050WC	BH-DSV-3735	2500W	50"	3.50"

SCV-BH SERIES Ø3.00 I.D			.00 I.D.	
PART #	DESCRIPTION	WATTS	LEAD	LENGTH
DHAS03000251300036W	BH-SCV-3025	1300W	36"	2.50"

ALL "BH" Heaters are 240 volt.

THERMOCOUPLES - "T/C"

NTC/J THERMOCOUPLE



PART #	DESCRIPTION
DUN00832048	NTC/J 8-32 X 48"
DUN00832072	NTC/J 8-32 X 72"
DUN00832120	NTC/J 8-32 X 120"

WTC/J THERMOCOUPLE



PART #	DESCRIPTION
DUW02500072	WTC/J - 250 X 72"
DUW02500120	WTC/J - 250 X 120"

PTC/J THERMOCOUPLE



FTC/J THERMOCOUPLE



PART #	DESCRIPTION
DUF25028048	FTC/J -250 X 48"
DUF25028072	FTC/J -250 X 72"
DUF25028120	FTC/J -250 X 120"

ATC/J THERMOCOUPLE



BTC/J THERMOCOUPLE



OSCO° inc.

STANDARD LOCATING RINGS - HSN / SCV SERIES



STANDARD LOCATING RINGS - MGN SERIES





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HSN - ASSEMBLY & DISASSEMBLY



"G" Style Nozzle:

- 1. Install thermocouple into hole and grooved slot on the shank of the nozzle.
- 2. Slip MC coil heater over thermocouple until secure at base of shank and tip of shank.
- 3. Install gate needle into body of nozzle. (If nozzle is AFS type, skip this step.)
- 4. Using anti-seize, install threaded tip into nozzle and torque to OSCO Torque Specification.

"H" Style Nozzle:

- 1. Bend thermocouple into hole and grooved slot on the shoulder head of the "H" Style nozzle.
- 2. Slip heater band over the thermocouple and tighten securely. (Tightening not required if using an MC coil heater.)
- 3. Install thermocouple into hole and grooved slot on the shank of the nozzle.
- 4. Slip MC coil heater over thermocouple until secure at base of shank and tip of shank.
- 5. Install gate needle into body of nozzle. (If nozzle is AFS type, skip this step.)
- 6. Using anti-seize, install threaded tip into nozzle and torque to OSCO Torque Specification.

CVT - NOZZLE TIPS

- 1. Clean nozzle threads and seat area of all plastic.
- 2. Seat area must be smooth and free of all burrs.
- 3. Apply OSCO # AF-8 "Anti-Seize" Paste to male threads on tip.
- 4. Tighten to the appropriate torque setting. [See Chart below].

20 Series	16.6 ft. / lbs.	(200 in / lbs.)
50 Series	30 ft. / lbs.	
100 Series	55 - 60 ft. / lbs.	
200 Series	90 - 100 ft. / lbs.	

5. Heat nozzles to 300° F and re-tighten.



CVT - ASSEMBLY & DISASSEMBLY

CVT Manifold System Assembly in Plates.

- 1. Fit nozzles into nozzle plate. Install seal rings.
- 2. Number and route wires for nozzles.
- 3. Locate lower manifold supports above threaded holes in the nozzle plate.
- 4. Locate the manifold center support in the nozzle plate.
- Install the alignment dowel in the nozzle plate. (OSCO supplied in the Hot Half and QuickSet systems.)
- 6. Assemble manifold on the nozzles, center and lower supports. Remember to locate the alignment dowel and center support.
- 7. Ensure manifold is flat on center support and nozzles, and located correctly.
- 8. Number, route, and clear wires for manifold.
- 9. Insert and tighten manifold hold down screws through the lower supports into the nozzle plate. (Torque is per machinist's handbook for bolt size.)
- 10. Connect all wiring per tool design.
- 11. Install splash tube around manifold inlet.
- 12. Assemble top clamp plate and any side rails to the tool per design and tighten bolts.
- 13. Test system on the bench to ensure all wiring is correct and system heats up accordingly.



CVT Manifold Disassembly in Plates / Replacing Manifold Heaters

- 1. Heat system to loosen plastic.
- 2. Once plastic is loosened by heat, remove manifold hold down screws from nozzle plate.
- 3. Lift manifold from nozzles. Be careful not to lose the lower supports and alignment dowels under the manifold.
- 4. Turn system off and disconnect wiring from electrical connectors.
- 5. Once the manifold is cooled, take out the small, flat hold down screws on the manifold heaters near the connection point. (Skip this step if not replacing manifold heaters.)
- 6. Pull out the manifold heaters. (Skip this step if not replacing manifold heaters.)
- 7. Install new heaters using the OSCO manifold heater installation instructions. (Skip this step if not replacing manifold heaters.)
- 8. Remove all seal rings on nozzles. Replace w/new during reassembly.
- 9. Reassemble system, ensuring nozzles are flat in their counter bores.
- 10. Locate lower supports to nozzle plate at threaded hole locations.
- 11. Reassemble manifold on the nozzles, center and lower supports. Remember to locate the timing dowel and center support.
- 12. Install manifold hold down screws. Torque specs are to machinist's handbook.
- 13. Rewire electrical connectors and reassemble plates.

MGN - ASSEMBLY & DISASSEMBLY



OPTIONAL MGN LOCATING RING (BY APPLICATION)



Assembly & Disassembly. MGN Nozzle Components.

Tools Needed :

9/16 - 18 Tap - for 1/2" probe seals. 11/16 - 20 Tap - for 5/8" probe seals. Aluminum V-blocks. Vise. Arbor or Hydraulic Press. 1/4" Allen wrench. Slide hammer attached to vise grips. 3/32" Allen wrench. Surface Grinder.

Steps :

- 1. Remove :
 - a. MGN Cap Retaining Screws and the MGN Cap.
 - b. MGN Body Heater.
 - c. Probes + TCH Probe Heaters.

It may be necessary to heat MGN to soften plastic in order to remove probes.

TIP: If the TCH Heater is difficult to remove, add a few drops of WD-40 inside probe. Let soak in for a few minutes.

- d. Body Thermocouple.
- 2. Removing old MGN Probe Seal
 - a. Choose appropriate tap, and tap into probe seal. Do not tap any deeper than thickness of probe seal.
 - b. Attach Vise Grip / Slide Hammer to end of tap.
 - c. Use Slide Hammer to pull out old probe seal.
- 3. Ensure all material is cleaned from seal bore and MGN Body.
- 4. Install new Probe Seal with a hydraulic or arbor press.
- 5. Surface grind Probe Seal to correct height of .020" proud of main body.
- 6. Re-install :
 - a. Probes + TCH Probe Heaters.
 - b. MGN Body Heater.
 - c. Body Thermocouple.
 - d. MGN Cap.
 - e. Ensure Heater Retainer screws are snug to the back of the TCH probe heaters.

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FCN - ASSEMBLY & DISASSEMBLY

FCN System Assembly.

- 1. Fit nozzles into nozzle plate or A-plate. Install seal rings.
- 2. Number and route wires for nozzles.
- 3. Locate lower manifold supports above threaded holes in the nozzle plate. (Tip: Super glue helps with this process.)
- 4. Locate the manifold center support in the nozzle plate.
- 5. Locate the alignment dowel in the nozzle plate. (OSCO supplied in the Hot Half and QuickSet systems.)
- 6. Assemble manifold on the nozzles and lower supports and center supports. Remember to locate the timing dowel and center support.
- 7. Ensure manifold is flat on center support and nozzles, and located correctly.
- 8. Number, route, and clear wires for manifold.
- 9. Insert and tighten manifold hold down screws through the lower supports into the nozzle plate. (Torque is per machinist's handbook for bolt size.)
- 10. Connect all wiring per tool design.
- 11. Install splash tube around manifold inlet.
- 12. Install the valve pin bushing and valve pin bushing retainer.
- 13. Assemble side rails and or any mounting assembly required for
- the gear box(es).
- 14. Set Flow Control Pin.
- 15. Assemble gear box onto the valve pin and actuating rod into the gear box.
- 16. Rotate actuating rod both directions to assure proper pin travel.
- 17. Assemble top clamp plate to the tool per design and tighten bolts.18. Test system on the bench to ensure all wiring is correct and
- system heats up accordingly.





ITEM	SCV PARTS LIST	
1	NOZZLE BODY LOWER	
2	NOZZLE BODY UPPER	
3	HEAD SCREWS - 5/16-18 - S.H.C.S. (200 SERIES)	
	HEAD SCREWS - 3/8-16 - S.H.C.S. (400 SERIES)	
4	CROSS GEAR BEARING	
5	CROSS GEAR RETAINER	
6	CROSS GEAR - SLOTTED SPRING PIN	
7	CROSS GEAR	
8	CROSS GEAR RETAINER SCREW - #10-24 - S.H.C.S.	
9	CROSS GEAR RETAINER WASHER - #10	
10	THERMOCOUPLE	
11	BAND HEATER - NOZZLE BODY LOWER	
12	BAND HEATER - NOZZLE BODY UPPER	
13	VALVE PIN	
14	VALVE PIN BUSHING RETAINER	
15	VALVE PIN BUSHING	
16	NOZZLE TIP	
17	HEAT TRANSFER PIN BUSHING	
18	ACTUATING ROD	
19	SEAL RING	
20	UPPER NOZZLE BODY BUSHING	

TOOLS REQUIRED			
	200 SERIES	400 SERIES USED FOR	
1	5/32" HEX. KEY	5/32" HEX. KEY	CROSS GEAR RETAINER
2	1/4" HEX. KEY	5/16" HEX. KEY	HEAD SCREWS
3	7/64" HEX. KEY	7/64" HEX. KEY	NOZZLE HEATER SCREWS
4	3/8" HEX. KEY	1/2" HEX. KEY	PIN BUSHING RETAINER
5	1/4" OPEN END	1/4" OPEN END	THERMOCOUPLE
6	1-5/16" SOCKET	1-3/4" SOCKET	NOZZLE TIP
7	FLAT BLADE SCREW DRIVER	FLAT BLADE SCREW DRIVER	HEAD HEATER SCREWS

Disassembly Procedure

- 1. SCV Complete Nozzle Assembly [FIG. 1]
 - a. Remove Actuating Rod [Item 18].
 - b. Remove SCV Upper Body Heater [Item 12].







- 3. Upper Body Sub-Assembly [FIG. 3]
 - a. Remove Cross Gear Retainer Screw & Retainer Screw Washer [Item 8] & [Item 9].
 - b. Remove Cross Gear Retainer [Item 5]. Allowing Cross Gear to be removed.
 - c. Remove Cross Gear [Item 7].
 - d. Using soft brass, carefully remove the (2) Cross Gear Bearings [Item 4].
 - e. Remove the Upper Nozzle Body Bushing [Item 20]



ITEM	DSV PARTS LIST		
1	SEAL RING		
2	ACTUATING ROD		
3	NOZZLE CAP SCREWS - 1/4-28 - S.H.C.S.		
4	NOZZLE RADIUS CAP		
5	VALVE PIN		
6	NOZZLE TIP		
7	SEAL RING		
8	HEAD SCREWS - 3/8-16 - S.H.C.S.		
9	THERMOCOUPLE		
10	UPPER NOZZLE BODY BUSHING		
11	VALVE PIN SEAL BUSHING		
12	NOZZLE BODY LOWER		
13	CROSS GEAR RETAINER WASHER - #10		
14	CROSS GEAR RETAINER SCREWS - #10-24 - S.H.C.S.		
15	CROSS GEAR		
16	CROSS GEAR - SLOTTED SPRING PIN		
17	CROSS GEAR RETAINER		
18	CROSS GEAR BEARING		
19	NOZZLE CAP HEATER		
20	LOWER NOZZLE BODY HEATER		
21	UPPER NOZZLE BODY HEATER		
22	VALVE PIN BUSHING		
23	VALVE PIN GUIDE		
24	RETAINER-PIN BUSHING		
25	NOZZLE BODY UPPER		

	TOOLS REQUIRED		
1	5/32" HEX. KEY	CROSS GEAR RETAINER	
2	5/16" HEX. KEY	HEAD SCREWS	
3	7/64" HEX. KEY	NOZZLE HEATER SCREWS	
4	3/4" OPEN END	PIN SEAL BUSHING	
5	9/16" SOCKET	PIN BUSHING RETAINER	
6	1/4" OPEN END	THERMOCOUPLE	
7	1-5/16" SOCKET	NOZZLE TIP	
8	FLAT BLADE SCREW DRIVER	HEAD HEATER SCREWS	
9**	OSCO EXTRACTER	BEARINGS AND PIN BUSHING	

** CUSTOM TOOL MADE BY OSCO



Disassembly Procedure

- 1. DSV Complete Nozzle Assembly [FIG. 1]
 - a. Remove Actuating Rods [Item 2].
 - b. Remove DSV Upper Body Cap Heater [Item 19].
 - C. Remove DSV Upper Body Heater [Item 21].



[FIG. 1]

2. Separate Upper Body Sub-Assembly from Lower Body Sub-Assembly [FIG. 2] a. Remove the (4) Head Screws [Item 8]. b. Remove Valve Pin [Item 5].

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3. Upper Body Sub-Assembly [FIG. 3]

- a. Remove (4) Nozzle Cap Screws [Item 3].
- b. Remove Nozzle Cap and Seal Ring [Item 1] & [Item 4].
- c. Remove Cross Gear Retainer Screws & Retainer Screw Washers [Item 13] & [Item 14].
- b. Remove Cross Gear Retainers [Item 17]. Allowing Cross Gears to be removed.
- c. Remove Cross Gears [Item 15].
- d. Using soft brass, carefully remove the (4) Cross Gear Bearings [Item 18].
- e. Remove the Upper Nozzle Body Bushing & Retainer [Item 10] & [Item 11].



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VGN - ASSEMBLY & DISASSEMBLY



VGN Manifold System Assembly in Plates.

- 1. Fit nozzles into nozzle plate.
- 2. Number and route wires for nozzles.
- 3. Position the lower support above the threaded holes in the nozzle plate.
- 4. Install the center dowel and locating dowel in the nozzle plate.
- 5. Position the center support over the center dowel.
- 6. Install the manifold onto the nozzles using the dowels to locate the manifold.
- 7. Install the manifold hold down bolts and torque to bolt specifications.
- 8. Ensure manifold is flat and located correctly.
- 9. Number, route, and clear wires for manifold.
- 10. Insert and tighten manifold hold down screws through the lower supports into the nozzle plate. (Torque is per machinist's handbook for bolt size.)
- 11. Install valve pins into the cylinders using the OSCO valve pin installation instructions.
- 12. Install the valve pin/cylinder assembly by inserting valve pin into the valve pin bushing in the manifold until the cylinder sits flat on the HCA Mount Plate.
- 13. Tighten the bolts on the HCA Mount Plate to machinist's handbook torque spec per bolt size.
- 14. Plumb the cylinders per tool design.
- 15. Connect all wiring per tool design.
- 16. Assemble top clamp plate and any side rails to the tool per design.
- 17. Set valve pins to ensure proper stroke and shut off per the OSCO vale pin installation instructions.
- 18. Test system on the bench to ensure all wiring is correct and all valve pins actuate correctly.

VGN Manifold Disassembly in Plates / Replacing Manifold Heaters

- 1. Disconnect the VG lines from the cylinders and remove the fittings from the cylinder.
- 2. Remove valve pin retainer from the cylinder, then spin the cylinder off the valve pin. (Pin is threaded.)
- 3. Remove the HCA Mount Plate (cylinders sit on HCA Mount Plate) from the manifold. Be careful to not lose the small pillar supports under the HCA Mount Plate.
- 4. Once the manifold is cool enough to touch, take out the small, flat hold down screws on the manifold heaters near the connection point. (Skip this step if not replacing manifold heaters.)
- 5. Pull out the manifold heaters. (Skip this step if not replacing manifold heaters.)
- 6. Install new heaters using the OSCO manifold heater installation instructions, then power up the manifold with the new heaters to loosen the plastic on the valve pins. Remember to power up the nozzles. (*Skip this step if not replacing manifold heaters.*)
- Once plastic has heated enough to allow you to remove the valve pins, pull out the valve pins.
- 8. Shut system down to cool manifold so you do not burn your hands and/or fingers when proceeding to the next step.
- 9. Remove hold down screws from manifold.
- 10. Turn on nozzles just enough to loosen the plastic between nozzle and manifold.
- 11. Once plastic allows you to lift manifold away from nozzles, please do so. Be careful not to lose the lower pillar supports, or the alignment dowel under the manifold.
- 12. Remove all seal rings. Replace w/new during reassembly.
- 13. Flip manifold over and remove failed heaters as in step #5. (Skip this step if not replacing manifold heaters.)
- 14. Install new heaters as in step #6. (Skip this step if not replacing manifold heaters.)
- 15. Reassemble system, ensuring nozzles are flat in their counter bores, and manifold is flat. Torque specs are to machinist's handbook.
- 16. Align each lower support to nozzle plate at threaded hole locations.
- 17. Reattach HCA Mount Plates and cylinders.
- 18. Turn manifold and nozzles on so you can insert valve pins. Cylinder's piston should be completely forward.
- 19. Thread valve pins into cylinder/piston assembly so they are flush to the gate, then install valve pin retainer.
- 20. Reattach hydraulic connections.
- 21. Fine tune valve pin set position per OSCO VG pin setting instructions.

ITEM	MSO PARTS LIST		
1	CYLINDER ASSEMBLY		
2	CROSS GEAR RETAINER LOCK WASHER - #10		
3	CROSS GEAR - SPRING PIN		
4	CYLINDER MOUNTING SCREW - 3/8-16 - S.H.C.S.		
5	CYLINDER MOUNTING LOCK WASHER - 3/8" I.D.		
6	CYLINDER MOUNTING ANGLE BRACKET		
7	FRONT ADAPTER HEATER		
8	NOZZLE ALIGNMENT DOWEL		
9	FRONT ADAPTER MOUNTING SCREWS - 3/8-16 - S.H.C.S.		
10	NOZZLE FRONT ADAPTER		
11	THERMOCOUPLE		
12	NOZZLE MIDDLE BODY HEATER		
13	REAR ADAPTER HEATER		
14	VALVE PIN		
15	VALVE PIN GUIDE		
16	VALVE PIN GUIDE RETAINER		
17	NOZZLE TIP		
18	NOZZLE REAR ADAPTER		
19	ACTUATING ROD		
20	SEAL RING - MIDDLE TO REAR ADAPTER		
21	SEAL RING - MIDDLE TO FRONT ADAPTER		
22	FRONT TO MIDDLE NOZZLE BODY SCREWS - 3/8-16 - S.H.C.S.		
23	NOZZLE MIDDLE BODY BUSHING		
24	CROSS GEAR RETAINING SCREWS - #10-24 - S.H.C.S.		
25	CROSS GEAR RETAINER		
26	CROSS GEAR		
27	CROSS GEAR BEARING		
28	NOZZLE MIDDLE BODY		
29	VALVE PIN GUIDE		

TOOLS REQUIRED		
1	5/32" HEX. KEY	CROSS GEAR RETAINER
2	1/4" HEX. KEY	HEAD SCREWS
3	7/64" HEX. KEY	NOZZLE HEATER SCREWS
4	1/2" HEX. SOCKET	PIN BUSHING RETAINER
5	1/4" OPEN END	THERMOCOUPLE
6	1-5/16" HEX. SOCKET	NOZZLE TIP
7	FLAT BLADE SCREW DRIVER	HEAD HEATER SCREWS
8**	OSCO EXTRACTER	BEARINGS AND PIN BUSHING

** CUSTOM TOOL MADE BY OSCO



Disassembly Procedure

- 1. MSO Complete Nozzle Assembly [FIG. 1]
 - a. Remove (2) Cylinder Mounting Screws [Item 4].
 - b. Remove Cylinder Assembly [Item 1].
 - c. Remove Actuating Rod [Item 19].



 Separate Front Adapter Sub-Assy from Middle Adapter Sub-Assy [FIG. 2]
a. Remove the (4) Head Screws [Item 9].





Front Adapter Sub-Assy [FIG. 3]
a. Remove Nozzle Heater [Item 7].
b. Remove Thermocouple [Item 18].



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4. Separate Middle Adapter Sub-Assy from Front Adapter Sub-Assy. [FIG. 4]

- a. Remove (3) Middle to Front Adapter Screws [Item 22].
- b. Remove Middle Adapter Heater [Item 12].
- c. Remove Rear Adapter to Middle Adapter Seal Ring [Item 20].
- d. Remove Middle Nozzle Adapter Bushing [Item 23].
- e. Remove Middle Adapter to Front Adapter Seal Ring [Item 21].

- 5. Front Adapter Sub-Assembly [FIG. 5]
 - a. Remove Cross Gear Retaining Screw & Washer [Item 24] & Item 2].
 - b. Remove Cross Gear Retainer [Item 25].
 - c. Remove Cross Gear Spring Pin [Item 3].
 - d. Remove Cross Gear [Item 26]
 - e. Remove (2) Cross Gear Bearings [Item 27].





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6. Rear Adapter Sub-Assy.

- a. Remove Valve Pin [Item 14].
- b. Remove (2) Thermocouples [Item 11].
- c. Remove (2) Front Adapter Heaters [Item 13].
- d. Remove Nozzle Tip & Valve Pin Guide [Item 17] & [Item 29].
- e. Remove Middle Nozzle Adapter Bushing [Item 15].



[FIG. 6]

**Re-assembly Procedure

Reverse Steps 1 - 6

HOW DO I.....

Question: How do I remove a previously installed MGN probe?

Answer: Care must be taken when removing previously installed probes. Over time, the MGN probes can become seized into the MGN body. The best way to remove them is to use heat. Using an external heat source, gradually heat the upper part of the MGN body, particularly where the probe heads are located (one probe at a time). Using a "Hex-Key", periodically attempt to loosen the probe until it is free to remove.

**Note: In extreme cases, if heat does not work and a probe becomes damaged, it may require machining to remove the damaged probe.



**NOTE: THIS VIEW SHOWS AN MGN ASSEMBLY WITH THE BAND HEATER REMOVED.

HOW DO I.....

Question: How do I remove a previously installed MGN probe seal?

Answer: Over time, the MGN probe seals can become seized into the MGN body. The best way to remove them is to use heat. Using an external heat source, gradually heat the lower part of the MGN body, particularly where the probe seals are located (one probe at a time). Once the area is heated, use a pair of pliers or a tool that will allow you to pull on the seal.

**Note: Once a probe seal is removed, it can no longer be re-used. New probe seal(s) will be needed when re-assembling the MGN assembly. After installing the new probe seal(s), machining will be required for accurate fit.



HOW DO I.....

Question: How do I remove a previously installed Nozzle Tip?

Answer: Over time, the Nozzle Tips can become seized into the Nozzle body. The best way to remove them is to use heat. Using an external heat source, gradually heat the lower part of the Nozzle body, particularly where the threads are located. Once the area is heated, use correct socket and wrench to loosen the tip.

**Note: In some applications, you will be able to remove the body heater. If you are able to slide the heater(s) over the tip, it is recommended that you do so.



**NOTE: THIS VIEW SHOWS A NOZZLE ASSEMBLY WHERE THE HEATER IS UNABLE TO SLIDE OVER THE NOZZLE TIP.



HOW DO I.....

Question: How do I remove a previously installed flexible manifold heaters?

Answer: Occasionally there may be reason for you to replace your existing Flexible Heaters. To do this, simply disconnect the heater lead wires and remove the hold-down screws. Starting at one end, pry up on the Flexible Heater with a soft metal instrument continuing to follow the heater path as you pry upward. Repeat these steps for each heater.

**Note: This procedure is only applicable to Flexible Heaters.



HOW DO I.....

Question: How do I replace a nozzle T/C (Thermocouple)?

Answer: There are (2) two types of thermocouples used in Osco Nozzle Assemblies. The ATC thermocouple is used with "MC" Mini-Coil Heaters and the NTC thermocouple is used with "MBH" Mineral Band Heaters. To remove an ATC thermocouple, you will need to remove the "MC" Heater entirely to be able to gain access to the contact point of the thermocouple. If your Nozzle Assembly contains an "MBH" Heater, you will need a 1/4" open-end wrench to remove the NTC thermocouple. You may access the NTC thermocouples without the need to remove the "MBH" Heaters.

**Note: This procedure may not be applicable to a 'customer-specific' nozzle assembly.



OSCO Torque Specifications

20 Series HSN/CVT			
Component Thread Size Suggested			
Тір	3/8" – 24	15 ft. lbs.	
Manifold Hold	5/16" – 18 or	32 ft. lbs.	
Down Screws	3/8" – 16		
MNS/MEN	5/8" – 18	55 ft. lbs.	
Manifold Plug Retainers	5/8" – 18	55 ft. lbs.	
Thermocouple	#8 – 32	20 inch lbs.	
Thermocouple	1⁄4″ – 28	60 inch lbs.	

50 Series HSN/CVT		
Component	Thread Size	Suggested Torque
Тір	1⁄2″ – 24	30 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	¾″−16	100 ft. lbs.
Manifold Plug Retainers	¾″−16	100 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

100 Series HSN/CVT		
Component	Thread Size	Suggested Torque
Тір	5/8" – 24	55 – 60 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	¾″−16	100 ft. lbs.
Manifold Plug Retainers	7/8" – 14	100 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

200 Series HSN/CVT		
Component	Thread Size	Suggested Torque
Тір	1" – 16	90 – 100 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	1" - 12	120 ft. lbs.
Manifold Plug Retainers	1" - 14	120 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

50 Series VGN		
Component	Thread Size	Suggested Torque
Тір	1⁄2″ – 24	30 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	¾″−16	100 ft. lbs.
Manifold Plug Retainers	¾″−16	100 ft. lbs.
Pin Bushing Retainer	5/8" – 11	55 – 60 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

100 Series VGN		
Component	Thread Size	Suggested Torque
Тір	11/16" – 20	55 – 60 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	¾″−16	100 ft. lbs.
Manifold Plug Retainers	7/8" – 14	100 ft. lbs.
Pin Bushing Retainer	¾″−16	100 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

200 Series VGN		
Component	Thread Size	Suggested Torque
Тір	1" - 16	90 – 100 ft. lbs.
Manifold Hold Down Screws	3/8" – 16	32 ft. lbs.
MNS/MEN	1" - 12	120 ft. lbs.
Manifold Plug Retainers	1" - 14	120 ft. lbs.
Pin Bushing Retainer	1" - 14	120 ft. lbs.
Thermocouple	#8 – 32	20 inch lbs.
Thermocouple	1⁄4″ – 28	60 inch lbs.

Miscellaneous		
Component	Thread Size	Suggested Torque
300 Series Tips	1-3/16" – 18	90 – 100 ft. lbs.
MGN Probes	9/16" – 18	40 ft. lbs.
SCV-200 Tips	1" – 16	90 – 100 ft. lbs.
SCV-400 Tips	1-1/4" - 16	100 – 110 ft. lbs.
DSV-500 Tips	1-3/8" – 18	120 – 130 ft. lbs.