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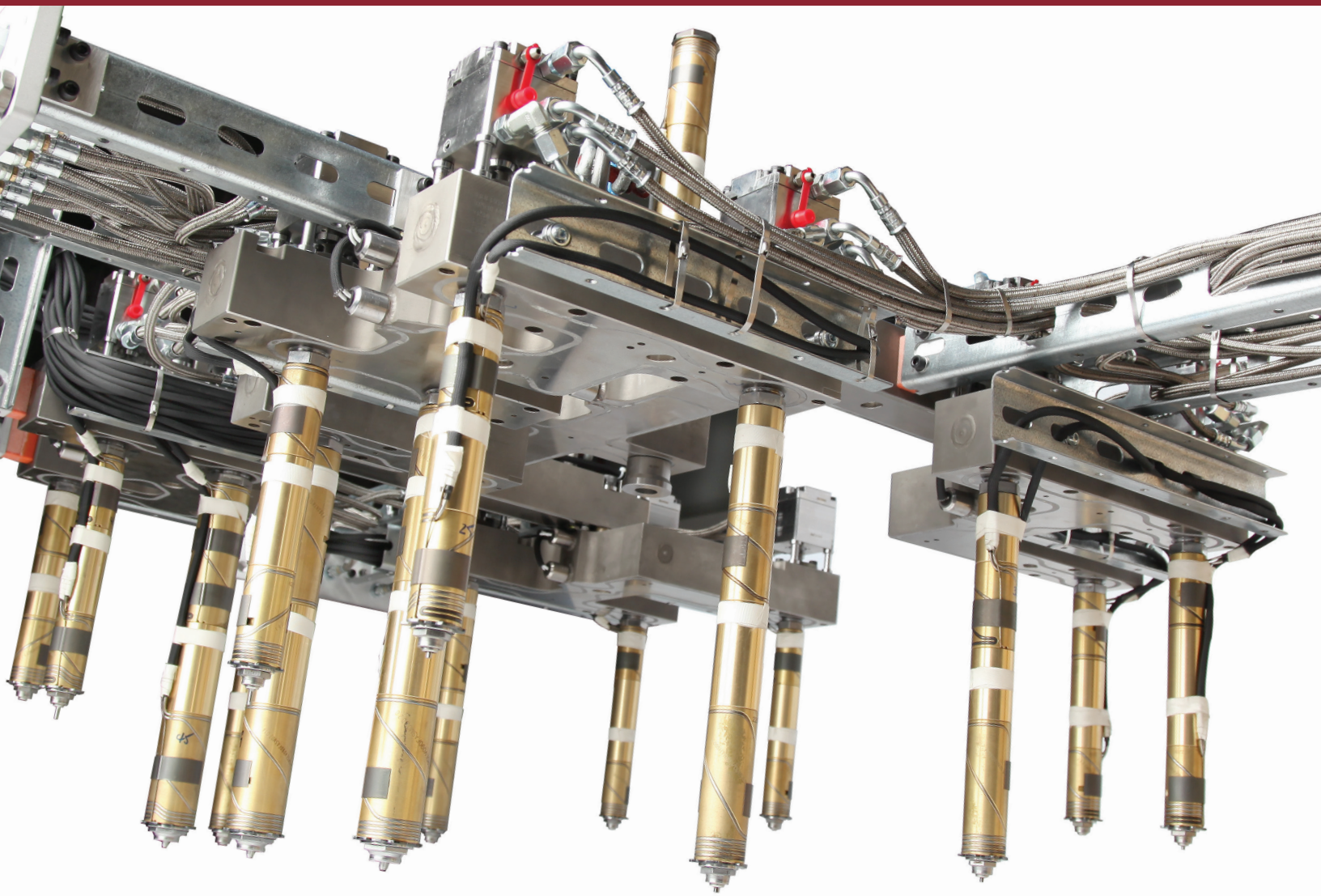
Fusion-Series G2® Resource Guide



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Warranty Information

3 Years	Fusion-Series G2 nozzles and manifolds.
2 Years	TempMaster-Series temperature controllers.
1 Year	Fusion-Series G2 nozzles and manifold heaters, and all other non wear Mold-Masters components.
60 Days	Wear items including O-Rings, hydraulic seals, liners, torpedoes, thermocouples, valve pins, transfer seals and other items classified as wear items.

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Product Size Selection

Choose the nozzle product according to the weight of your part. If you are using more than one nozzle to fill your part, use the weight per nozzle to select the right nozzle size.

FUSION SERIES	APPROXIMATE SHOT WEIGHT PER GATE	NOZZLE LENGTHS	MELT FLOW CHANNEL IN THE NOZZLE		VALVE PIN DIAMETER
			TIP / SPRUE	VALVE	
F4000	15g ~ 50g	80mm ~ 485mm	Ø 6mm	Ø 8mm	Ø 3mm
F5000	50g ~ 500g	80mm ~ 485mm	Ø 8mm	Ø 11mm	Ø 5mm
F6000-F5000	50g ~ 500g	189mm ~ 709mm	Ø 12mm - Ø 8mm	Ø 16mm - Ø 11mm	Ø 5mm
F6000	500g ~ 3500g	80mm ~ 700mm	Ø 12mm	Ø 16mm	Ø 6mm/Ø 8mm
F7000-F6000	500g ~ 3500g	189mm ~ 709mm	Ø 18mm - Ø 12mm	Ø 22mm - Ø 16mm	Ø 6mm/Ø 8mm
F7000	3500g+	80mm ~ 1000mm	Ø 18mm	Ø 22mm	Ø 8mm

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Properties Chart for Injection Molding Grade Plastics

Plastic Classes	Symbol	D792 Solid Density (g/cm³)	Recommend Max Vent Depth (mm)	D648 Shrinkage (%)	Processing Temp (°C)	Recommend Processing Temp. (°C)	Mold Temp. (°C)	Recommend Mold Temp (°C)	No Flow Temp (°C)	Max L/T Ratio (1 mm Thick)	Injection Speed	Clamping (MPa=MN/m²)	Force (Ton/in²)	Typical Pressure (MPa=N/mm²)
Amorphous	ABS	1 to 1.2	0.025	0.5 to 0.6	195 to 240	250	38 to 93	60	135 to 150	30 to 150	Slow, even	62 to 93	4 to 6	120 to 140
	HIPS	1 to 1.1	0.02	0.4 to 0.7	180 to 280	240	10 to 85	20	130	200 to 250	Fast	31 to 62	2 to 4	100 to 200
	PS	1.0 to 1.1	0.02	0.4 to 0.7	180 to 280	225	10 to 85	20	200 to 250		Fast	31 to 62	2 to 4	100 to 200
Crystalline/ Semi-Crystalline	LDPE	0.91 to 0.93	<0.01	1.5 to 3	170 to 240	200	10 to 50	30	100 to 110	275	Fast	23 to 31	1.5 to 2	100 to 150
	HDPE	0.93 to 0.97	0.015	1.2 to 2.2	200 to 280	240	10 to 70	20	120 to 130	250	Fast	31 to 39	2 to 2.5	100 to 200
Semi-Crystalline	PP	0.9 to 1.02	0.015	1 to 2.5	230 to 275	240	15 to 65	50	170 to 180	200 to 300	Fast	31 to 46	2 to 3	100 to 130

*** 1 MPa = 145 PSI
°F = (°C x 1.8) + 32

Common Resin Comparison Chart

Properties	HDPE	LDPE	PP
Clarity	3	2	2
Impact Strength	4	5	3
Scuffing Resistance	4	4	4
Stiffness	3	2	4
Maximum Hot Fill (°C)	80	65	115
Anti Permeability			
CO2	2	1	3
Oxygen	2	1	2
Water	5	4	5
Resistance			
Acids	3	3	3
Alkalis	4.5	4.5	5
Alcohols	4.5	3	4
Min. Temperature (°C) - Brittleness	-100	-100	0
Melt Temperature (°C)	120 to 130	100 to 110	170 to 180
Density	0.94 to 0.965	0.91 to 0.925	0.89 to 0.91

Legend	0	1	2	3	4	5
	n/a	Poor	Fair	Good	Very Good	Excellent

*This chart is a guideline only. Variables such as bottle or container weight and wall thickness may have an effect on material performance. Testing is always recommended.

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Gating

Establish the optimum Gate Size

The first step in establishing the proper gate diameter is to assess whether your application requires a small, medium or large gate size. Review the Gate Sizing table shown below. Since different considerations may suggest a different optimum gate diameter, a compromise for each application is normally required. Needlessly small gates should be avoided when possible as they restrict flow and induce higher pressure losses.

	gate sizing		
	small	medium	large
material consideration			
structure	amorphous	part crystalline	crystalline
molecular weight	low	medium	high
melt flow index	high, lubricants	medium	low
reinforcements, fillers	none	low percentage	high
additive, flame retardants	without		with
heat, shear sensitivity	not feasible	acceptable	feasible
solidification rate of material	slow	medium	fast
part consideration			
shot weight	low	medium	high
wall thickness / flow length	small	medium	large
tolerances	wide	average	tight
gate mark, gate vestige	excellent	good	fair
end use	consumer-cosmetic		technical
process considerations			
temperature window	wide	medium	narrow
injection speed	low	medium	high
pressure drop created	high	normal	low
effect of holding pressure	less		more

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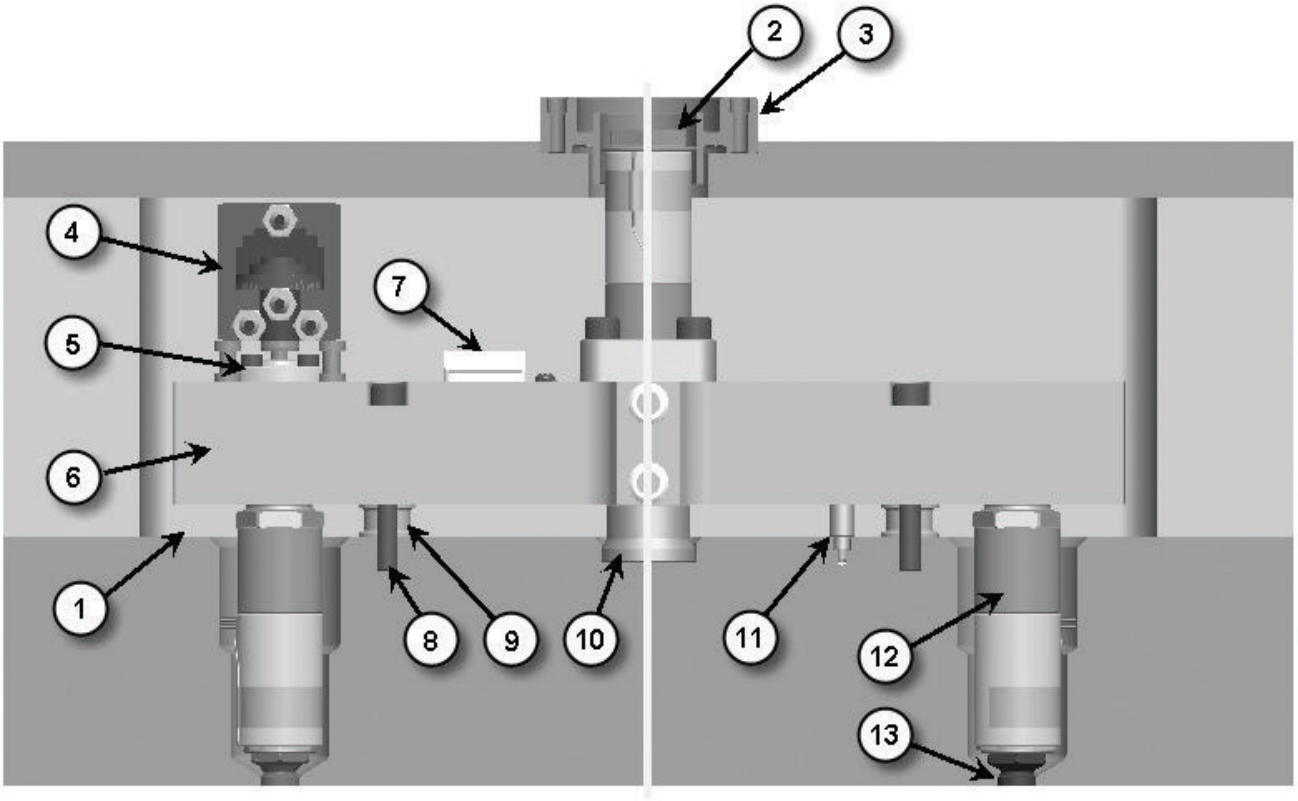
Cutaway of a Typical Fusion-Series G2 System

This illustration of a typical *Mold-Masters* Fusion-Series G2 System is divided into two halves (valve side and non-valve side). The terminology associated with the various components and features are listed below.



1 air insulation

2 inlet extension

3 locating ring

4 valve actuator

5 valve nut & insert

6 G2 manifold

7 bridge plate

8 system screw

9 support bushing

10 manifold locator

11 anti-rotation step dowel

12 G2 nozzle

13 gate seal

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Typical Torque Values

TORQUE VALUES					
DESCRIPTION	REFERENCE PART NUMBER	PRODUCT LINE	WRENCH SIZE	TORQUE VALUE (N.m)	TORQUE VALUE (ft-lbs)
GATE SEALS	ALL	F4000	14 mm	27 - 30	20 - 22
	ALL	F5000	18 mm	34 - 38	25 - 28
	ALL	F6000	27 mm	47 - 54	35 - 40
	ALL	F7000	32 mm	57 - 65	42 - 48
NOZZLE FLANGE	APPLICATION DEPENDED	F4000	27 mm	88	65
		F5000	27 mm	88	65
		F6000	36 mm	135	100
		F7000	41 mm	183	135
PISTON TOP	ALL	ALL	1/4 INCH (HEX KEY)	10	7.5
INLET TIP	IE08TP**** IE09TP**** IE13TP**** IE14TP**** IE32TP****	F4000 F5000 F6000	36 mm	88	65
	IE29TP**** IE30TP**** IE33TP****	F7000	50 mm	360	265
ACTUATOR MOUNTING SCREW	SHCS M5	ALL	4 mm (HEX KEY)	9.5	7
	SHCS M6	ALL	5 mm (HEX KEY)	16	11.8
MANIFOLD MOUNTING SCREW	SHCS M10	ALL	8 mm (HEX KEY)	40	30
HEATED FLANGE MOUNTING SCREW	SHCS M6	ALL	5 mm (HEX KEY)	14	10.3

NOTE: THE TORQUE VALUE FOR GATE SEALS, NOZZLE FLANGE AND INLET TIP ARE AT PROCESSING TEMPERATURE.

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Mold Masters

Gate Seal Options

GATING STYLE	PAGE	NOZZLE LENGTH RANGE	GATE ∅	EXTRA STOCK (SUPPLIED LG.)	GATE SEAL OPTIONS	GATE SEAL PACKAGES
E-TYPE TORPEDO	04.01.015	80.0 - 485.0	∅0.60-∅1.60	0.0	TSF056 + TPM004-1	TSF056P
					TSF056 + TPM004-1H	TSF056P1
F-TYPE TORPEDO	04.01.020	80.0 - 485.0	∅1.00	0.0	TSM019 + TPM005-1	TSM019P FOR PROCESSING TEMP. >280°C
					TSM019 + TPM005-2	TSM019P3 FOR PROCESSING TEMP. <280°C
			∅1.20	0.0	TSM057 + TPM005-1	TSM057P FOR PROCESSING TEMP. >280°C
					TSM057 + TPM005-2	TSM057P3 FOR PROCESSING TEMP. <280°C
			∅1.40	0.0	TSM058 + TPM005-1	TSM058P FOR PROCESSING TEMP. >280°C
					TSM058 + TPM005-2	TSM058P3 FOR PROCESSING TEMP. <280°C
			∅1.60	0.0	TSM059 + TPM005-1	TSM059P FOR PROCESSING TEMP. >280°C
					TSM059 + TPM005-2	TSM059P3 FOR PROCESSING TEMP. <280°C
EXTENDED F-TYPE TORPEDO	04.01.025	80.0 - 485.0	∅1.20	40.0	TSF030 + TPM005-1	TSF030P FOR PROCESSING TEMP. >280°C
					TSF030 + TPM005-2	TSF030P1 FOR PROCESSING TEMP. <280°C
			∅1.40	40.0	TSF031 + TPM005-1	TSF031P FOR PROCESSING TEMP. >280°C
					TSF031 + TPM005-2	TSF031P1 FOR PROCESSING TEMP. <280°C
			∅1.60	40.0	TSF032 + TPM005-1	TSF032P FOR PROCESSING TEMP. >280°C
					TSF032 + TPM005-2	TSF032P1 FOR PROCESSING TEMP. <280°C
HOT SPRUE	04.01.030	80.0 - 485.0	∅1.00-∅2.50	6.0	TSM021 (∅1.0 GATE SUPPLIED)	N/A
EXTENDED HOT SPRUE	04.01.040	80.0 - 485.0	∅1.00-∅2.50	40.0	TSM043 (∅1.0 GATE SUPPLIED)	
BI-METALLIC C-VALVE	04.01.045	80.0 - 485.0	∅1.50-∅2.00	0.0	TSF060 + TSLF0005	TSF060P
HOT VALVE	04.01.050	80.0 - 485.0	∅1.50	0.25	TSM022	N/A
			∅2.00	0.25	TSM023	
EXTENDED HOT VALVE	04.01.051	80.0 - 485.0	∅1.50	40.0	TSF047	
			∅2.00	40.0	TSF048	

NOTE:
CUSTOM SEALS CAN BE MANUFACTURED WITH APPLICATION ENGINEER APPROVAL.

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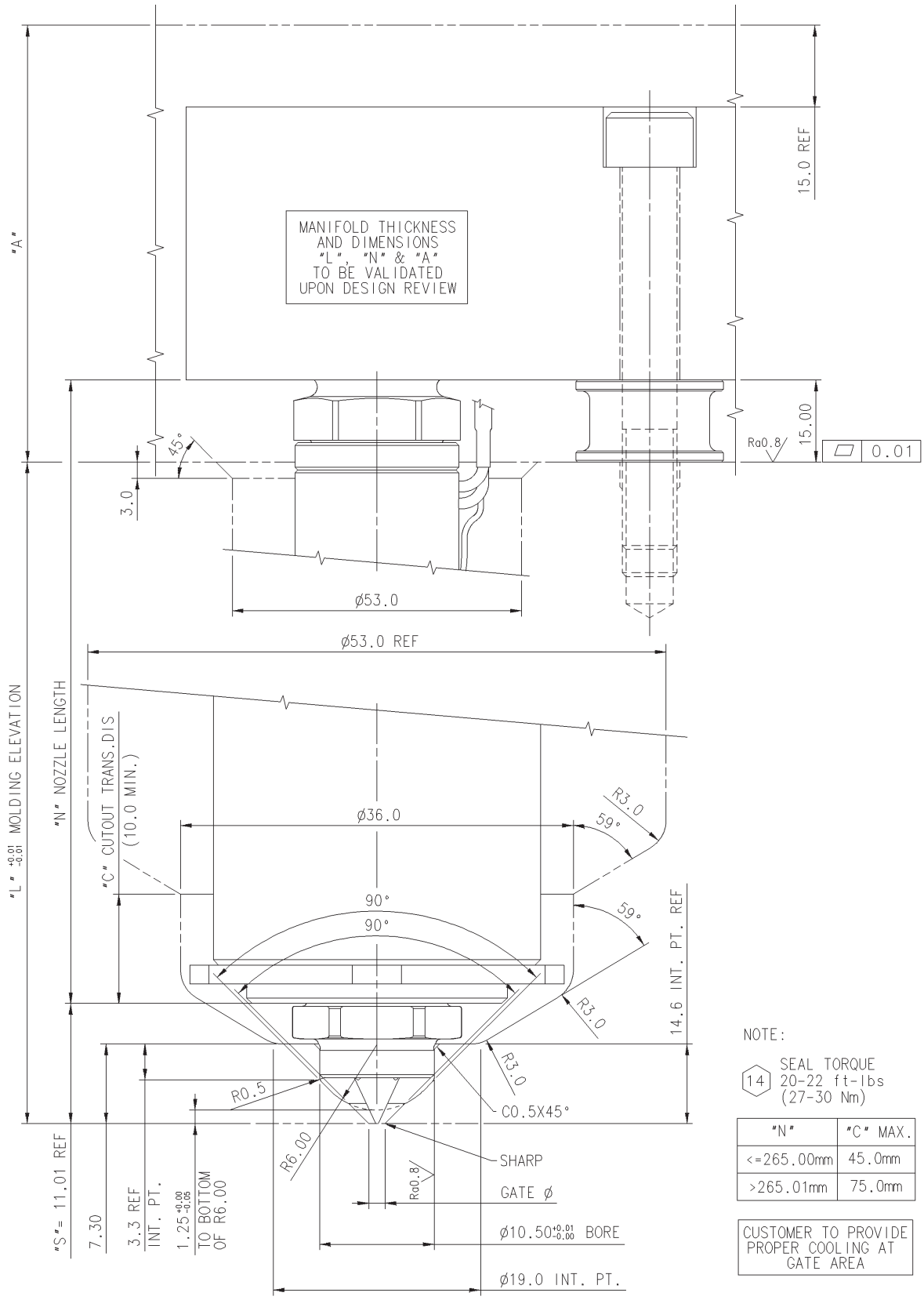

NOTE:

(14) SEAL TORQUE
20-22 ft-lbs
(27-30 Nm)

"N"	"C" MAX.
<=265.00mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE
PROPER COOLING AT
GATE AREA

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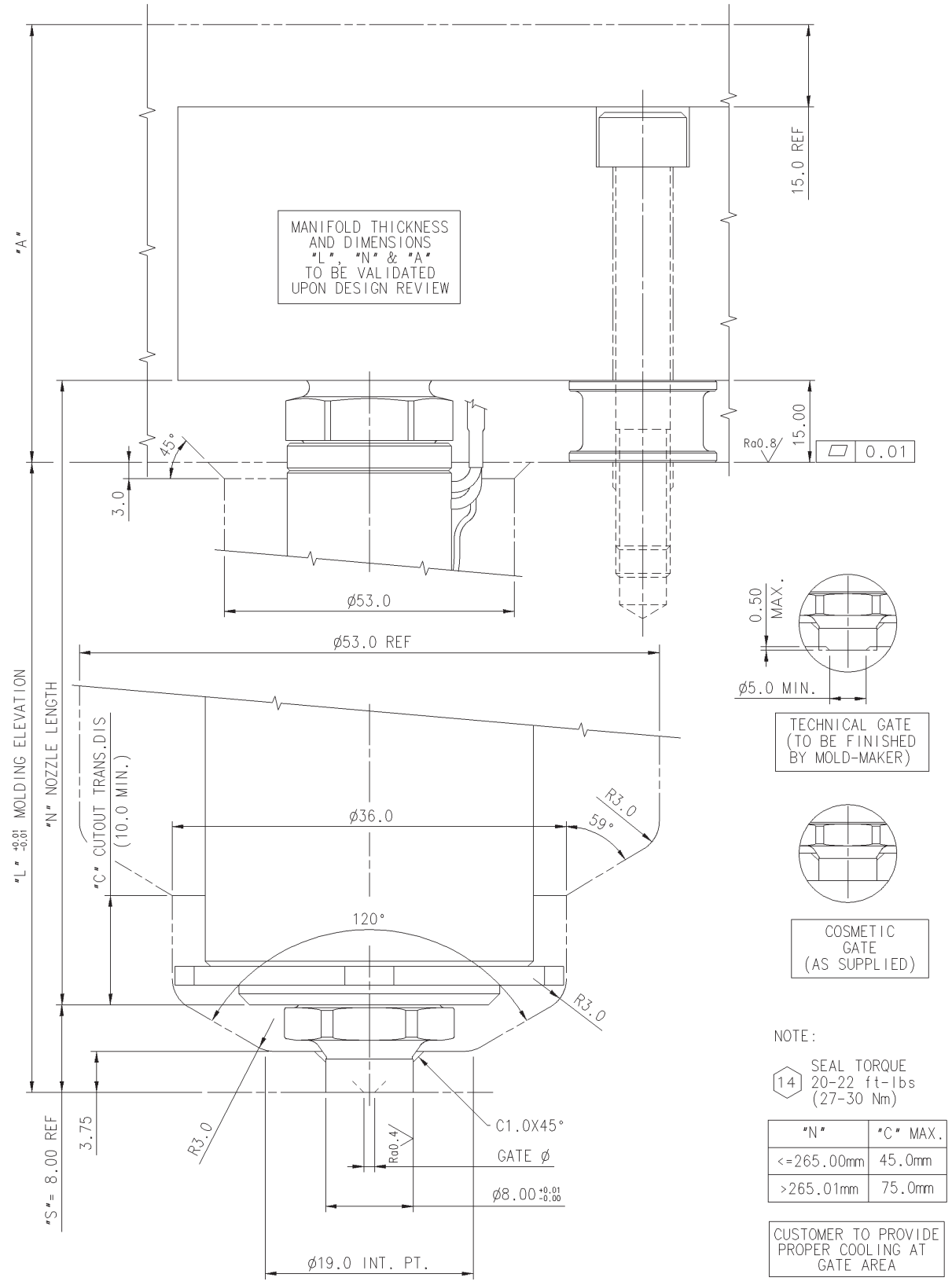
Mold Masters



GATE DETAIL

NOTE:

14 SEAL TORQUE
20-22 ft-lbs
(27-30 Nm)

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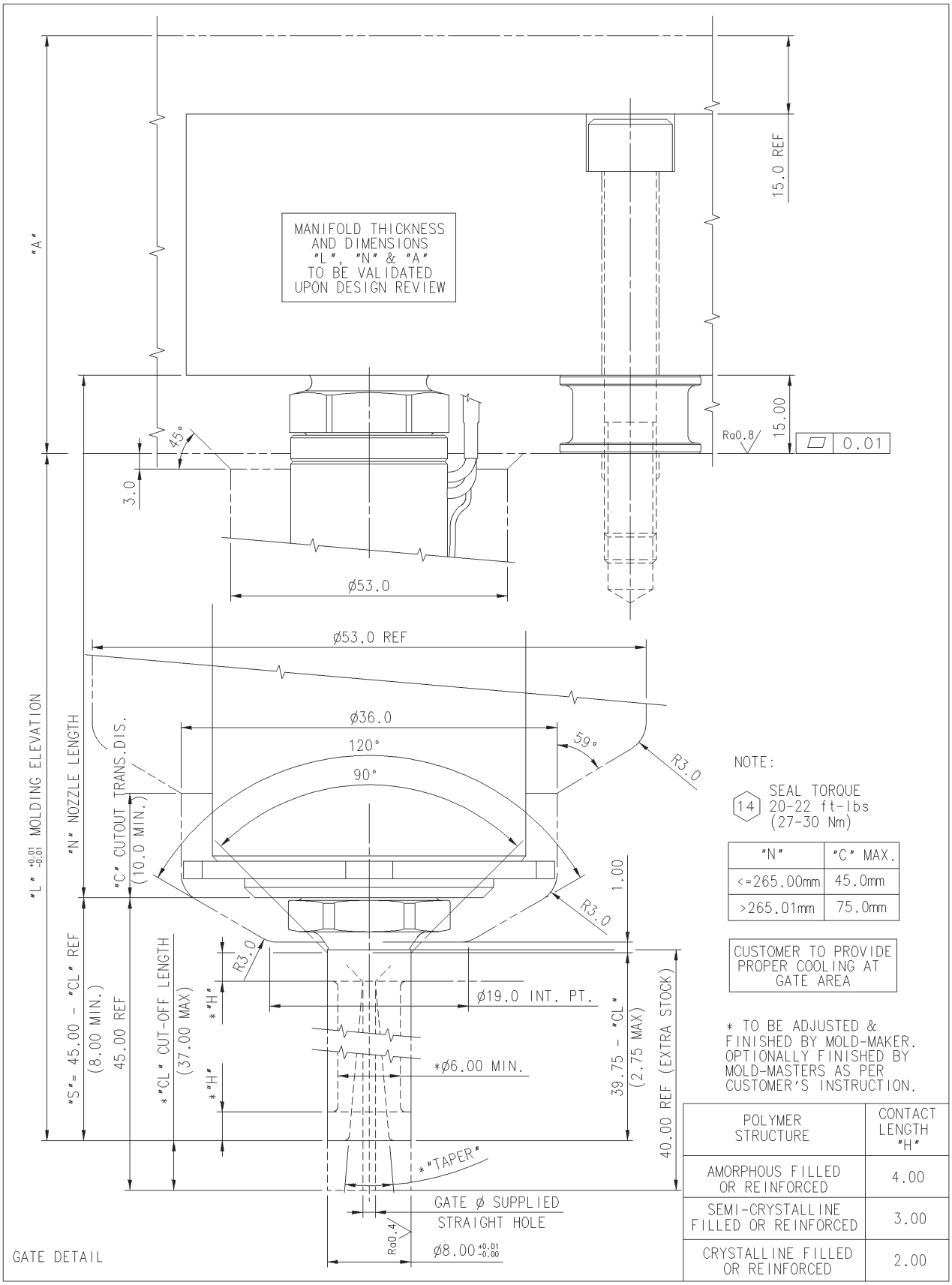

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14 SEAL TORQUE 20-22 ft-lbs (27-30 Nm)

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CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA

* TO BE ADJUSTED & FINISHED BY MOLD-MAKER. OPTIONALLY FINISHED BY MOLD-MASTERS AS PER CUSTOMER'S INSTRUCTION.

POLYMER STRUCTURE	CONTACT LENGTH "H"
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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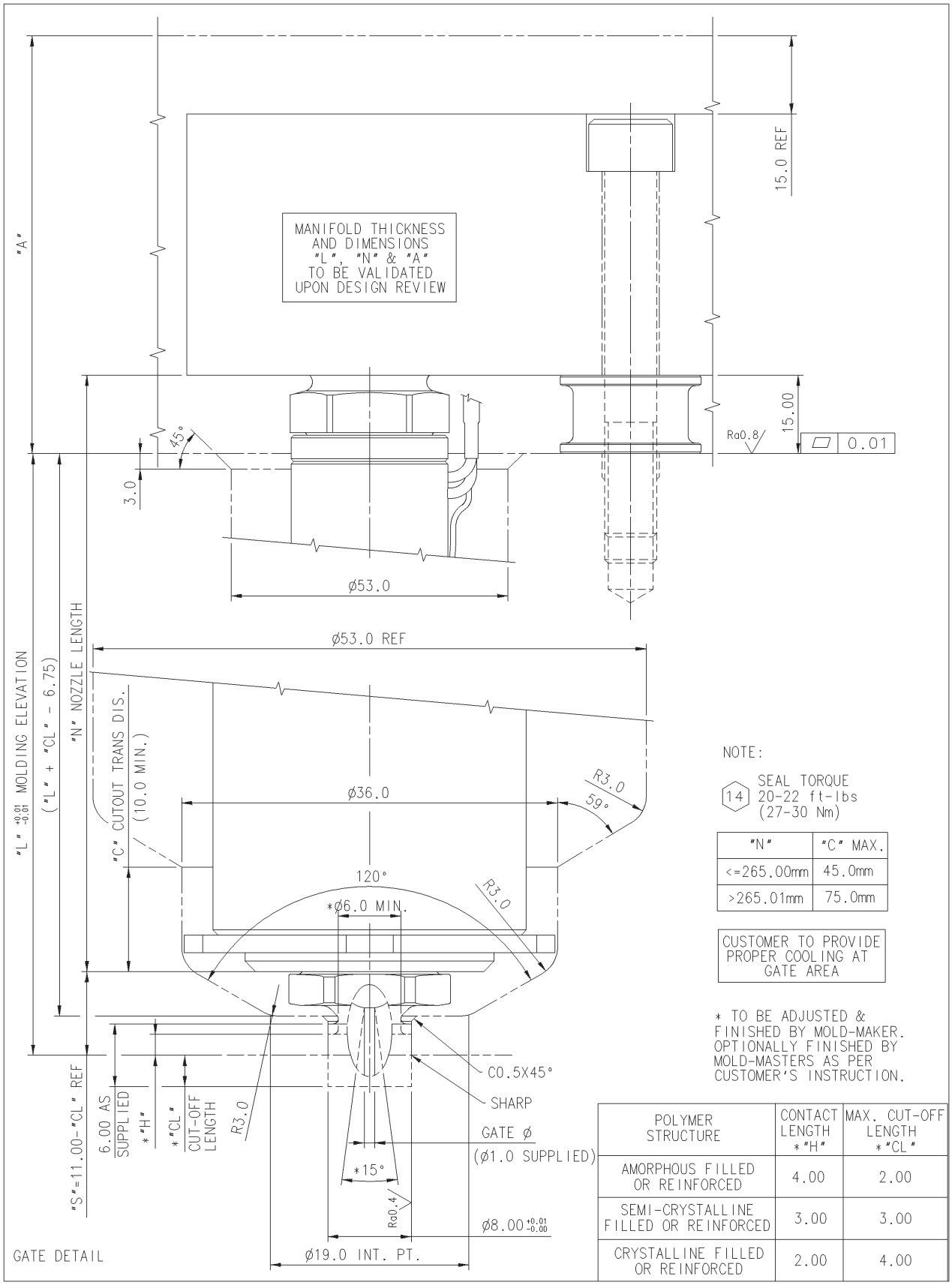

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POLYMER STRUCTURE	CONTACT LENGTH *"H"	MAX. CUT-OFF LENGTH *"CL"
AMORPHOUS FILLED OR REINFORCED	4.00	2.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00	4.00

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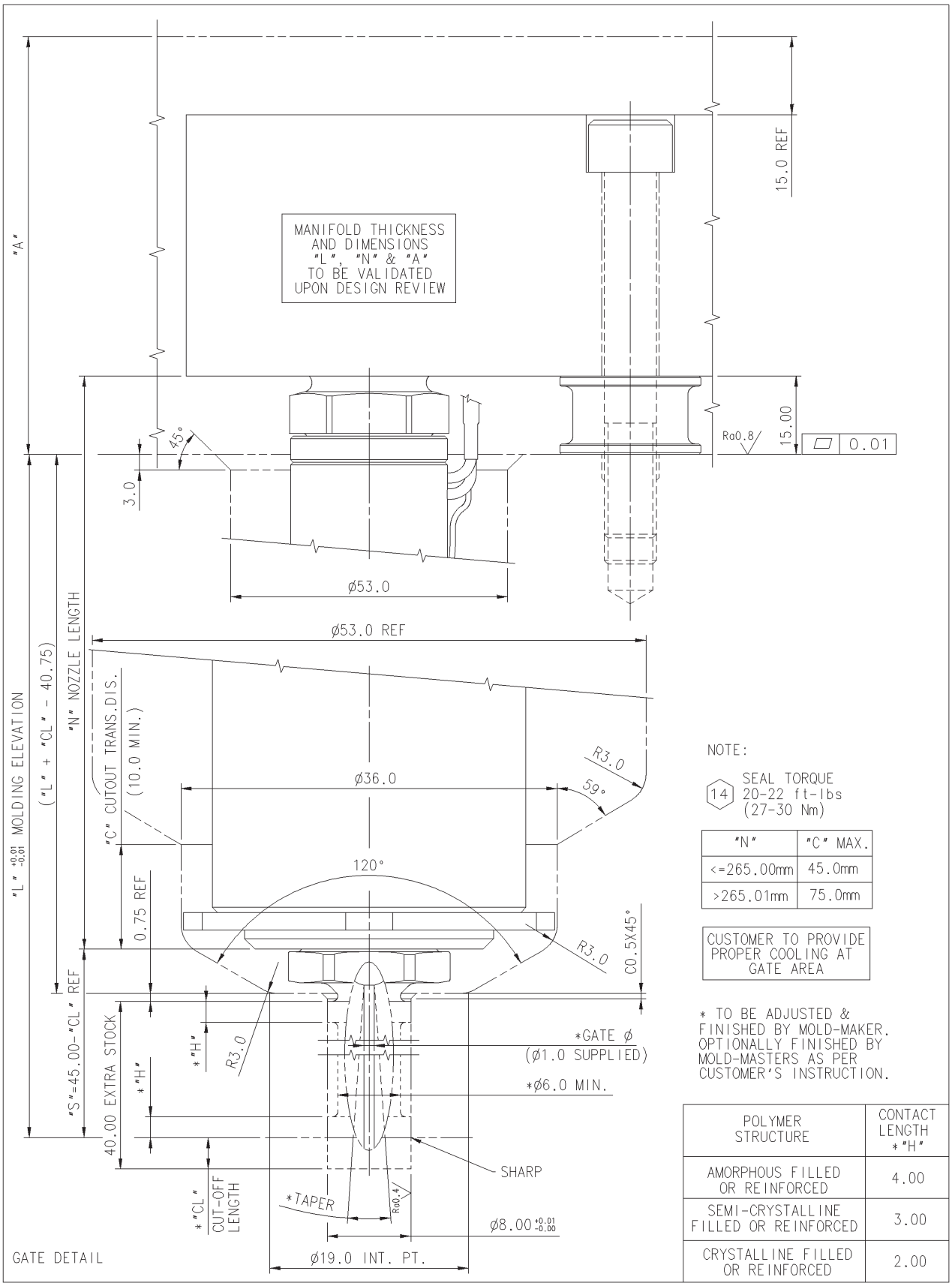

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POLYMER STRUCTURE	CONTACT LENGTH *"H"
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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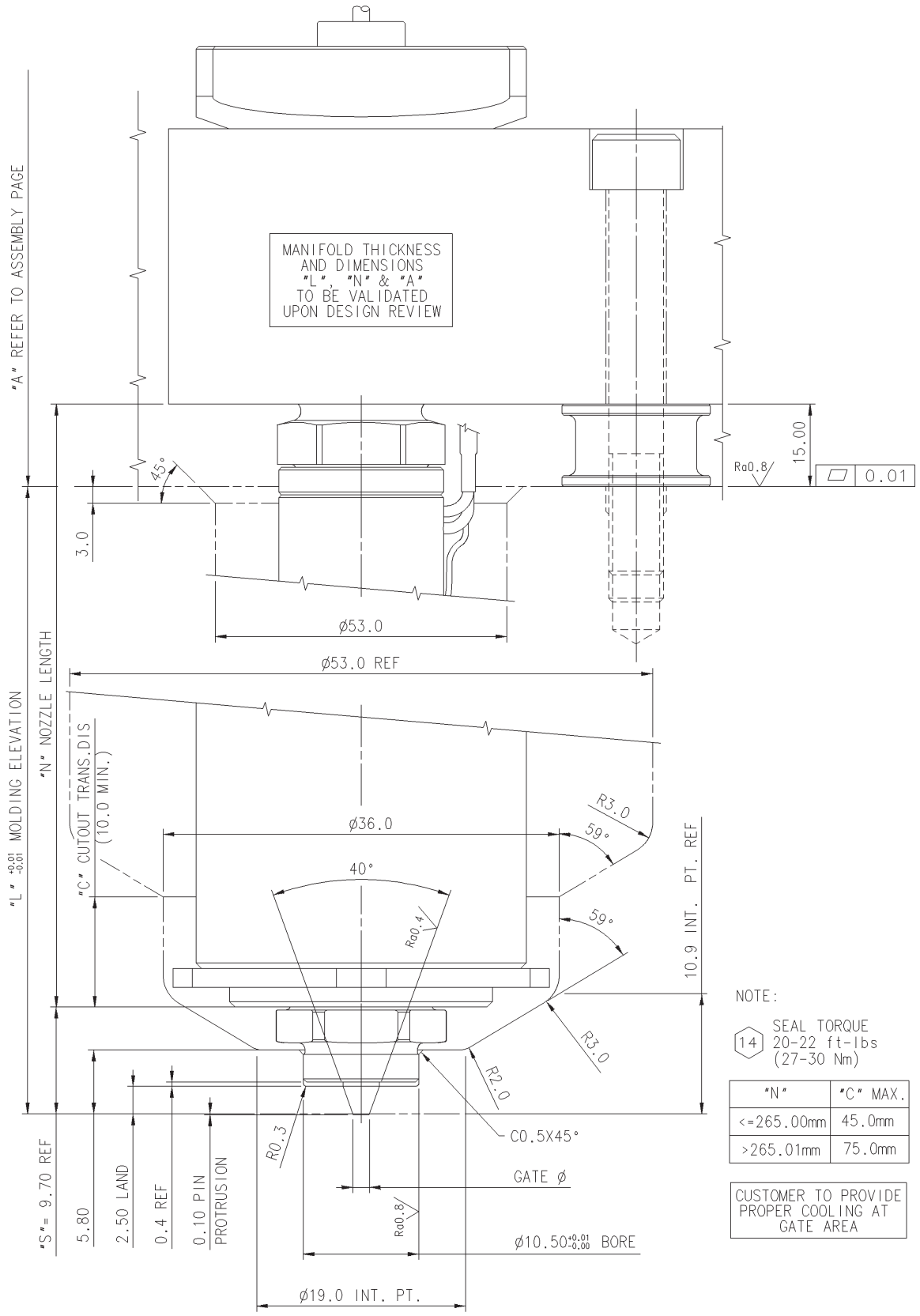

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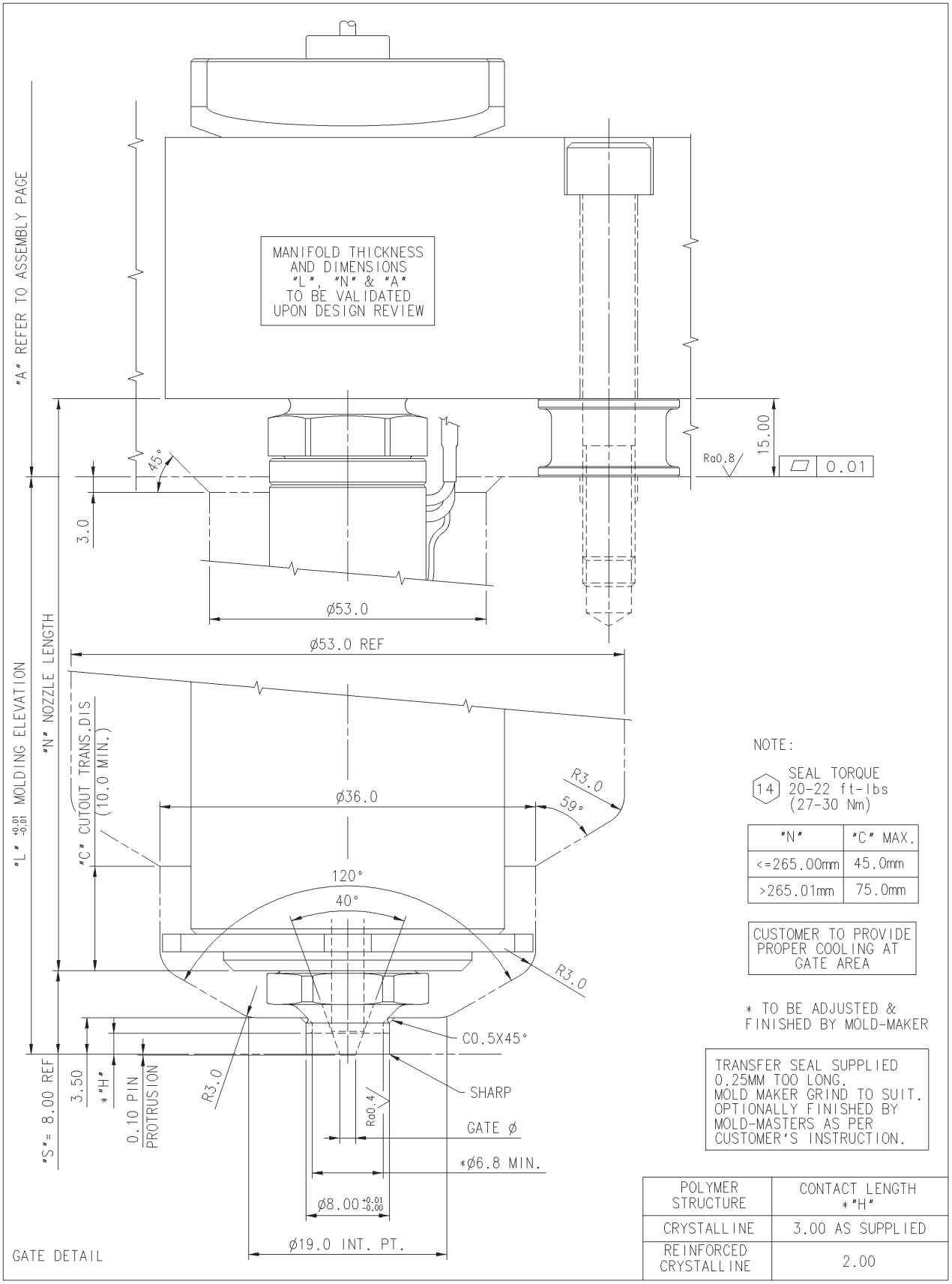

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CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA

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TRANSFER SEAL SUPPLIED 0.25MM TOO LONG. MOLD MAKER GRIND TO SUIT. OPTIONALLY FINISHED BY MOLD-MASTERS AS PER CUSTOMER'S INSTRUCTION.

POLYMER STRUCTURE	CONTACT LENGTH *"H"
CRYSTALLINE	3.00 AS SUPPLIED
REINFORCED CRYSTALLINE	2.00

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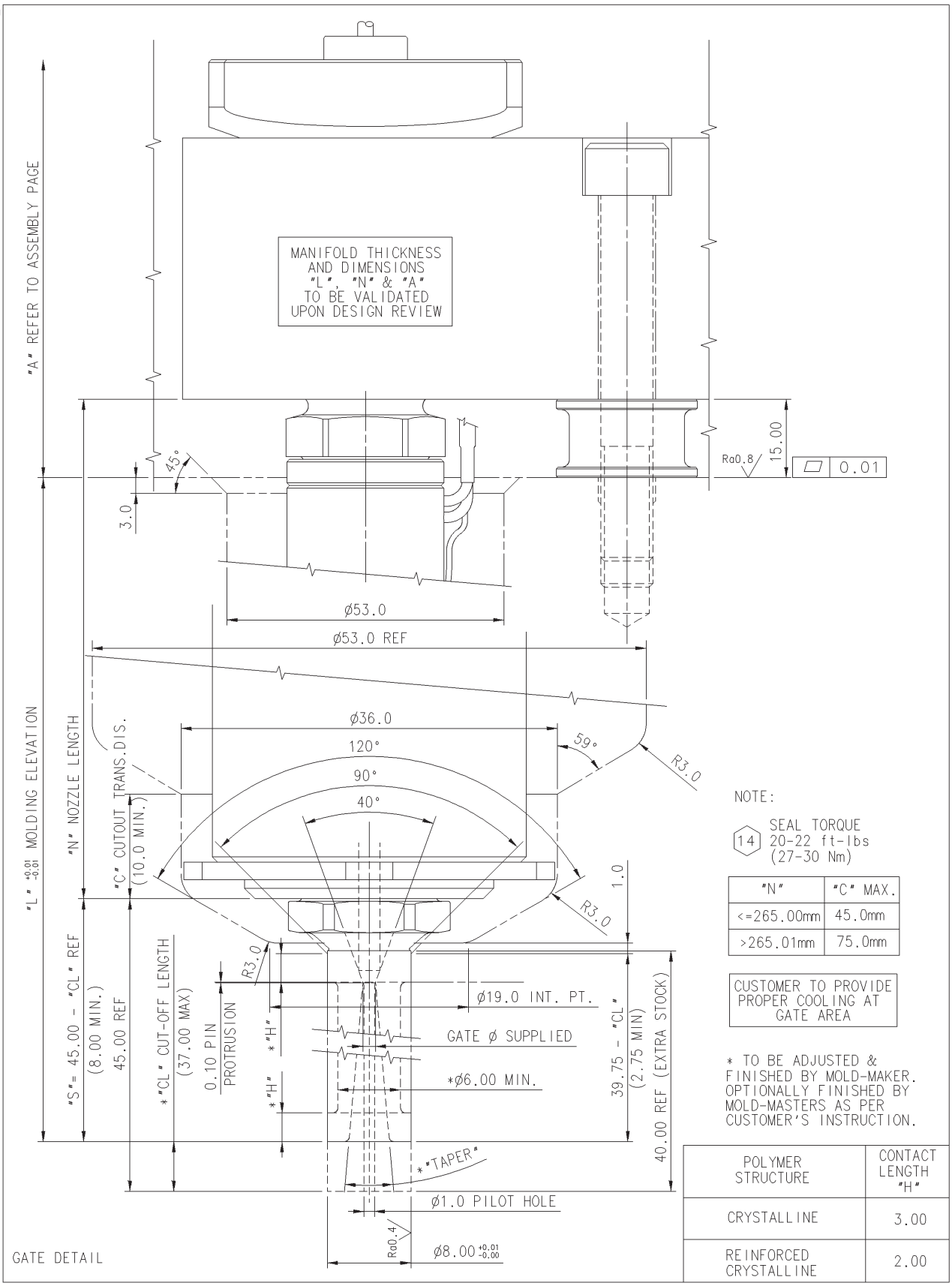

NOTE:

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CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA

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POLYMER STRUCTURE	CONTACT LENGTH "H"
CRYSTALLINE	3.00
REINFORCED CRYSTALLINE	2.00

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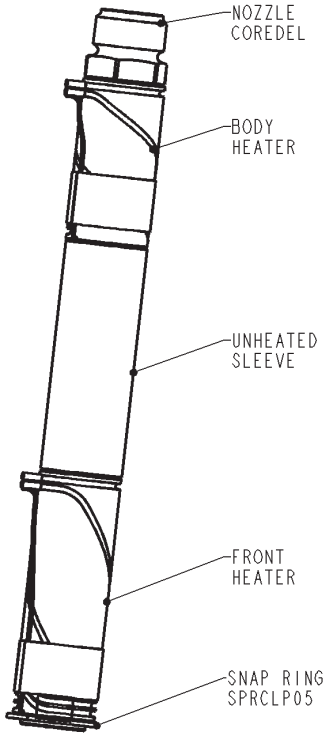

MODEL FOR REFERENCE ONLY

FRONT HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060FASM04	60.0	24.0	30.0	525W
HTRSLV090FASM04	90.0	24.0	30.0	525W

BODY HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060RASM04	60.0	24.0	30.0	450W
HTRSLV120RASM04	120.0	24.0	30.0	400W

NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	BODY HEATER	UNHEATED SLEEVE	BODY HEATER	UNHEATED SLEEVE	FRONT HEATER
80.00-110.00	N/A	N/A	N/A	5.0-35.0	HTRSLV060FASM04
110.01-140.00	N/A	N/A	N/A	5.0-35.0	HTRSLV090FASM04
140.01-205.00	N/A	N/A	HTRSLV060RASM04	5.0-70.0	HTRSLV060FASM04
205.01-265.00	N/A	N/A	HTRSLV120RASM04	10.0-70.0	HTRSLV060FASM04
265.01-295.00	N/A	N/A	HTRSLV120RASM04	40.0-70.0	HTRSLV090FASM04
295.01-330.00	N/A	5.0-35.0	HTRSLV120RASM04	65.0-70.0	HTRSLV090FASM04
330.01-425.00	HTRSLV060RASM04	22.5-70.0	HTRSLV120RASM04	22.5-70.0	HTRSLV090FASM04
425.01-485.00	HTRSLV120RASM04	40.0-70.0	HTRSLV120RASM04	40.0-70.0	HTRSLV090FASM04

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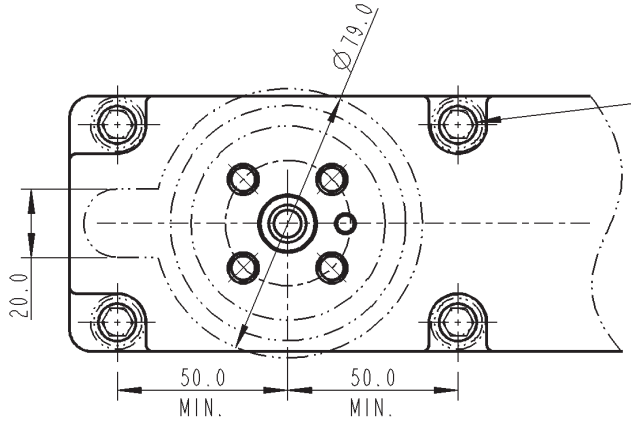
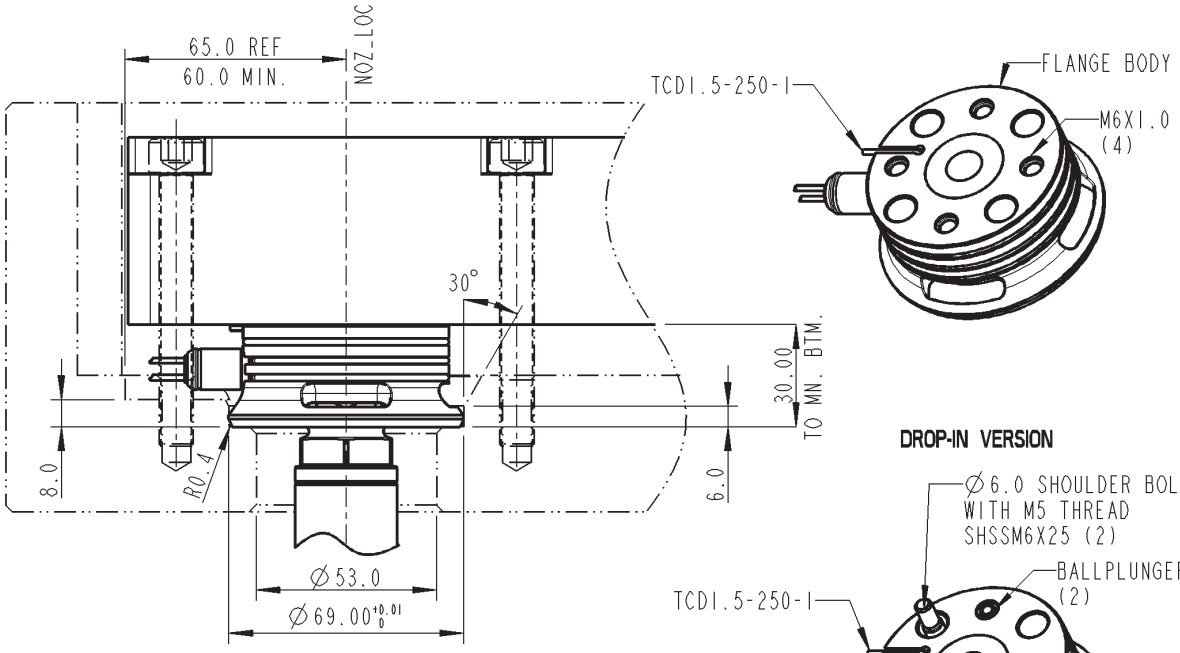
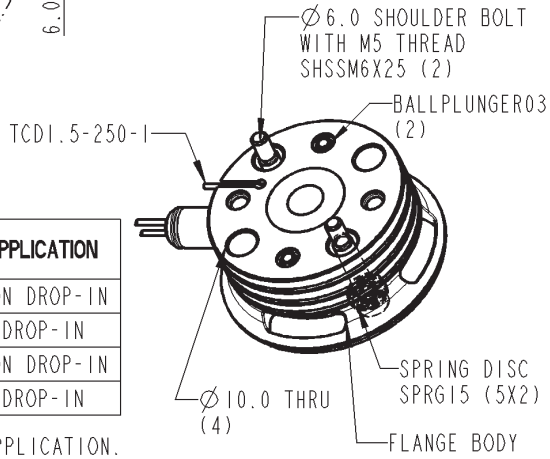


NOTE: 4X M10 or 3/8" SCREWS ARE HIGHLY RECOMMENDED TO BOLT MANIFOLD ONTO MOLD PLATE IN ORDER TO PROVIDE PROPER SEALING ON FLANGE CONTACT SURFACE.

NON DROP-IN VERSION



DROP-IN VERSION



FLANGE PACKAGE	FLANGE BODY	RUNNER DIA.	WATTAGE	APPLICATION
FLANGEFS07P	FLANGEFS07	Ø6.0	525W	NON DROP-IN
FLANGEFS07PI	FLANGEFS07	Ø6.0	525W	DROP-IN
FLANGEFS09P	FLANGEFS09	Ø8.0	525W	NON DROP-IN
FLANGEFS09PI	FLANGEFS09	Ø8.0	525W	DROP-IN

* CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR FLANGE APPLICATION.

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Gate Seal Options

GATING STYLE	PAGE	NOZZLE LENGTH RANGE	GATE ∅	EXTRA STOCK (SUPPLIED LG.)	GATE SEAL OPTIONS	GATE SEAL PACKAGES
E-TYPE TORPEDO	05.01.015	80.0 - 485.0	∅1.0-∅2.5	0.0	TSF057 + TPF005	TSF057P
					TSF057 + TPF005H	TSF057P1
F-TYPE TORPEDO	05.01.020	80.0 - 485.0	∅1.50	0.25	TSF001 + TPF001	TSF001P1 FOR PROCESSING TEMP.>280°C
					TSF001 + TPF001	TSF001P2 FOR PROCESSING TEMP.<280°C
			∅2.00	0.25	TSF002 + TPF001	TSF002P1 FOR PROCESSING TEMP.>280°C
					TSF002 + TPF001-1	TSF002P2 FOR PROCESSING TEMP.<280°C
			∅2.50	0.25	TSF003 + TPF001	TSF003P1 FOR PROCESSING TEMP.>280°C
					TSF003 + TPF001-1	TSF003P2 FOR PROCESSING TEMP.<280°C
EXTENDED F-TYPE TORPEDO	05.01.025	80.0 - 485.0	∅1.50	40.0	TSF033 + TPF001	TSF033P FOR PROCESSING TEMP.>280°C
					TSF033 + TPF001-1	TSF033P1 FOR PROCESSING TEMP.<280°C
			∅2.00	40.0	TSF034 + TPF001	TSF034P FOR PROCESSING TEMP.>280°C
					TSF034 + TPF001-1	TSF034P1 FOR PROCESSING TEMP.<280°C
			∅2.50	40.0	TSF035 + TPF001	TSF035P FOR PROCESSING TEMP.>280°C
					TSF035 + TPF001-1	TSF035P1 FOR PROCESSING TEMP.<280°C
HOT SPRUE	05.01.030	80.0 - 485.0	∅2.00	38.0	TSF004	N/A
			∅2.50	38.0	TSF005	
			∅3.00	38.0	TSF006	
			∅3.50	38.0	TSF007	
			∅4.00	38.0	TSF008	
EXTENDED HOT SPRUE	05.01.035	80.0 - 485.0	∅2.0-∅4.0	40.0	TSF036 (∅2.0 HOLE SUPPLIED)	
BI-METALLIC C-VALVE	05.01.036	80.0 - 485.0	∅2.0-∅3.0	0.0	TSF061 + TSLF0006	TSF061P
BI-MET. BALLNOSE C-VALVE	05.01.037	80.0 - 485.0	∅1.9-∅3.6	0.0	TS010033 + TSL010022	TS010033P2
HOT VALVE	05.01.040	80.0 - 485.0	∅2.50	0.25	TSF009	N/A
			∅3.00	0.25	TSF010	
			∅4.00	0.25	TSF011	
EXTENDED HOT VALVE	05.01.045	80.0 - 485.0	∅2.50	40.0	TSF049	
			∅3.00	40.0	TSF050	
			∅4.00	40.0	TSF051	
CYLINDRICAL HOT VALVE	05.01.050	80.0 - 485.0	∅3.00	N/A	TSF012 + VPG016-1	TSF012P
			∅4.00	N/A	TSF013 + VPG016-1	TSF013P

NOTE:
* ORIGINAL F-TYPE TORPEDO GATE SEAL PACAKGE TSF001P,TSF002P AND TSF003P CAN BE REPLACED BY PACKAGES WITH "P1" OR "P2"
* FINISHED GATE SEALS ARE AVAILABLE FOR F-TYPE, EXT. F-TYPE, HOT SPRUE, EXT. HOT SPRUE, HOT VALVE, EXT. HOT VALVE. CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR DETAIL
* CUSTOM SEALS CAN BE MANUFACTURED WITH APPLICATION ENGINEER APPROVAL
* SEE PG.02.01.060 FOR TYPICAL TORQUE VALUES

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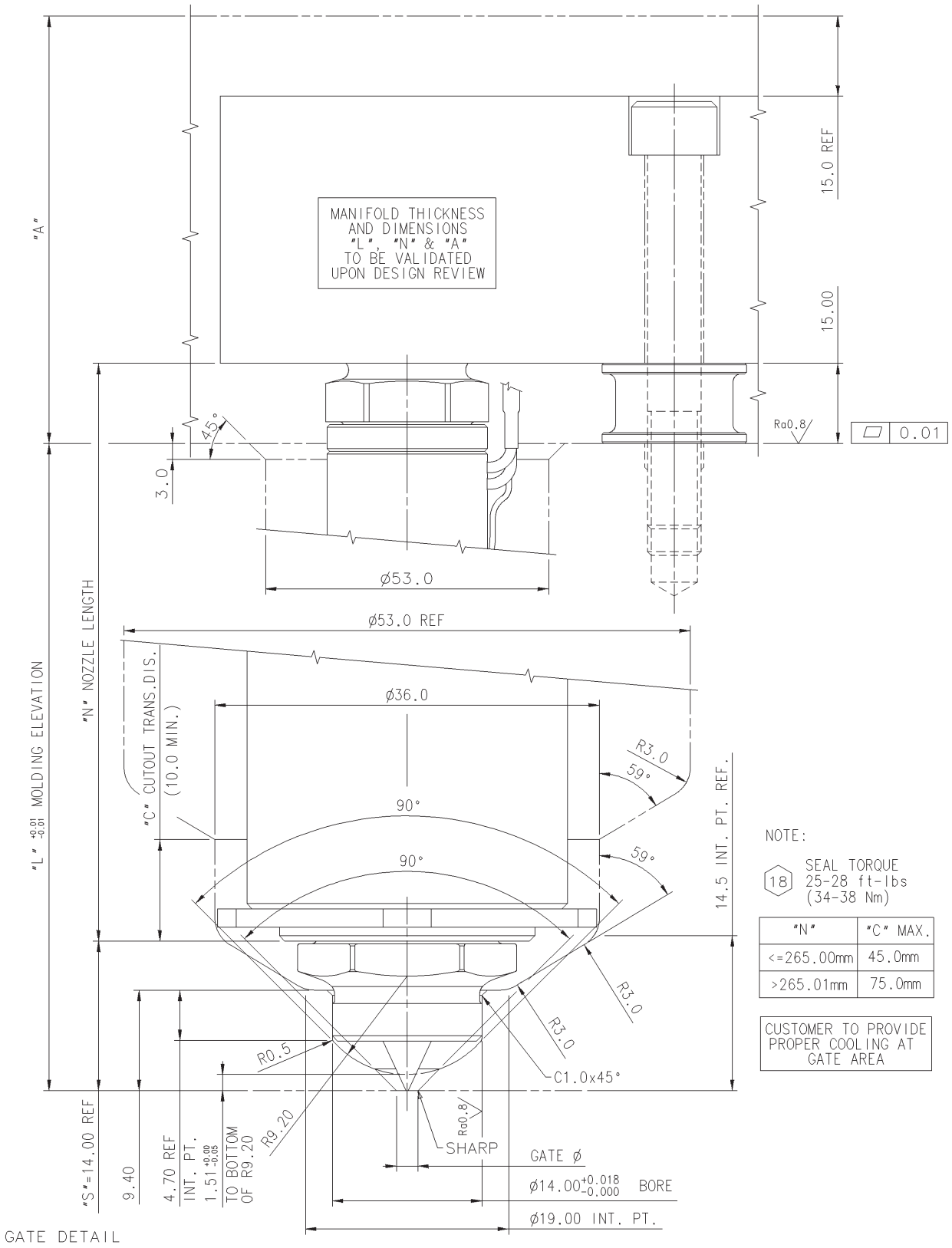

GATE DETAIL

NOTE:

18 SEAL TORQUE 25-28 ft-lbs (34-38 Nm)

"N"	"C" MAX.
<=265.00mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA

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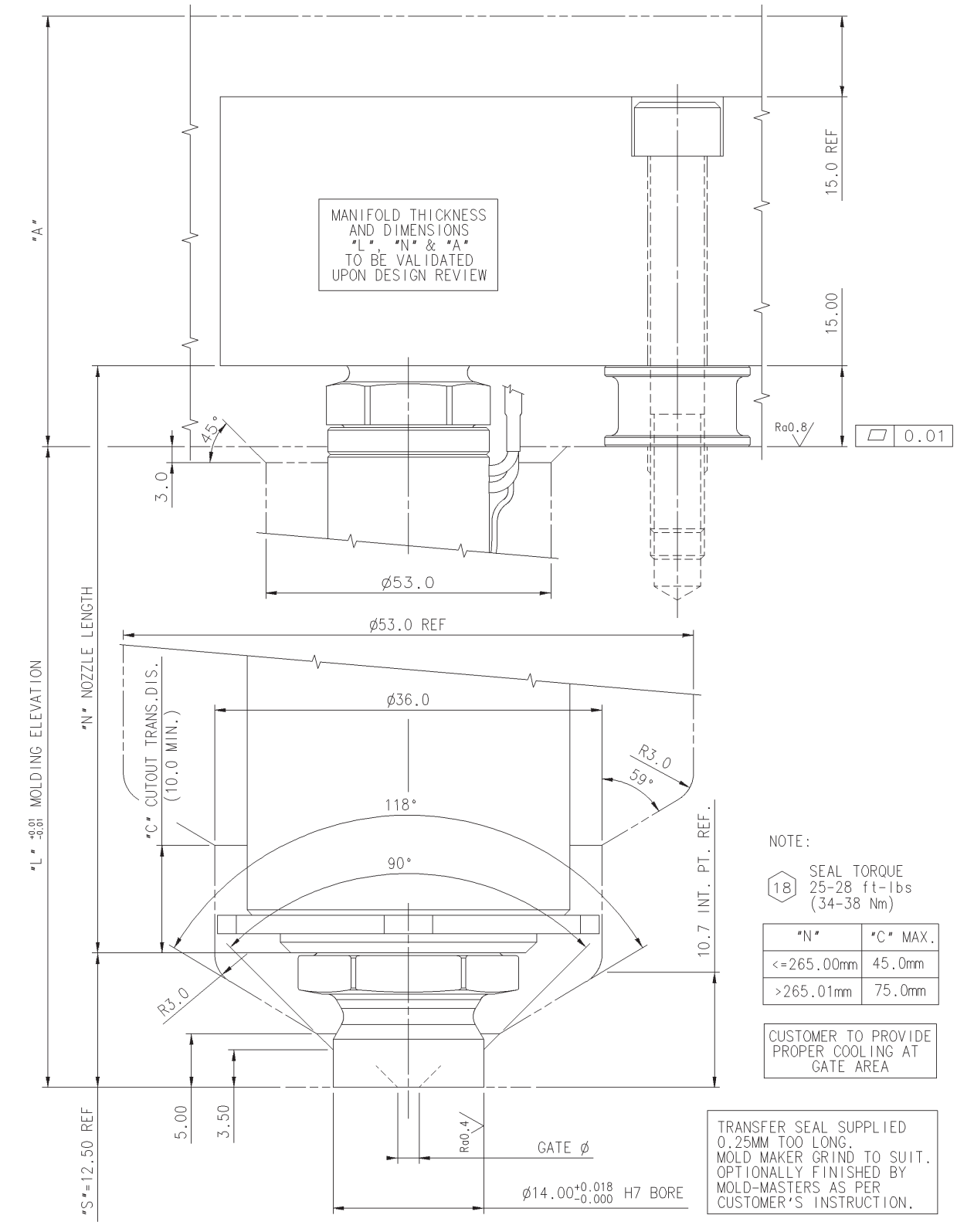

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NOTE:

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CUSTOMER TO PROVIDE
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GATE AREA

TRANSFER SEAL SUPPLIED
0.25MM TOO LONG.
MOLD MAKER GRIND TO SUIT.
OPTIONALLY FINISHED BY
MOLD-MASTERS AS PER
CUSTOMER'S INSTRUCTION.

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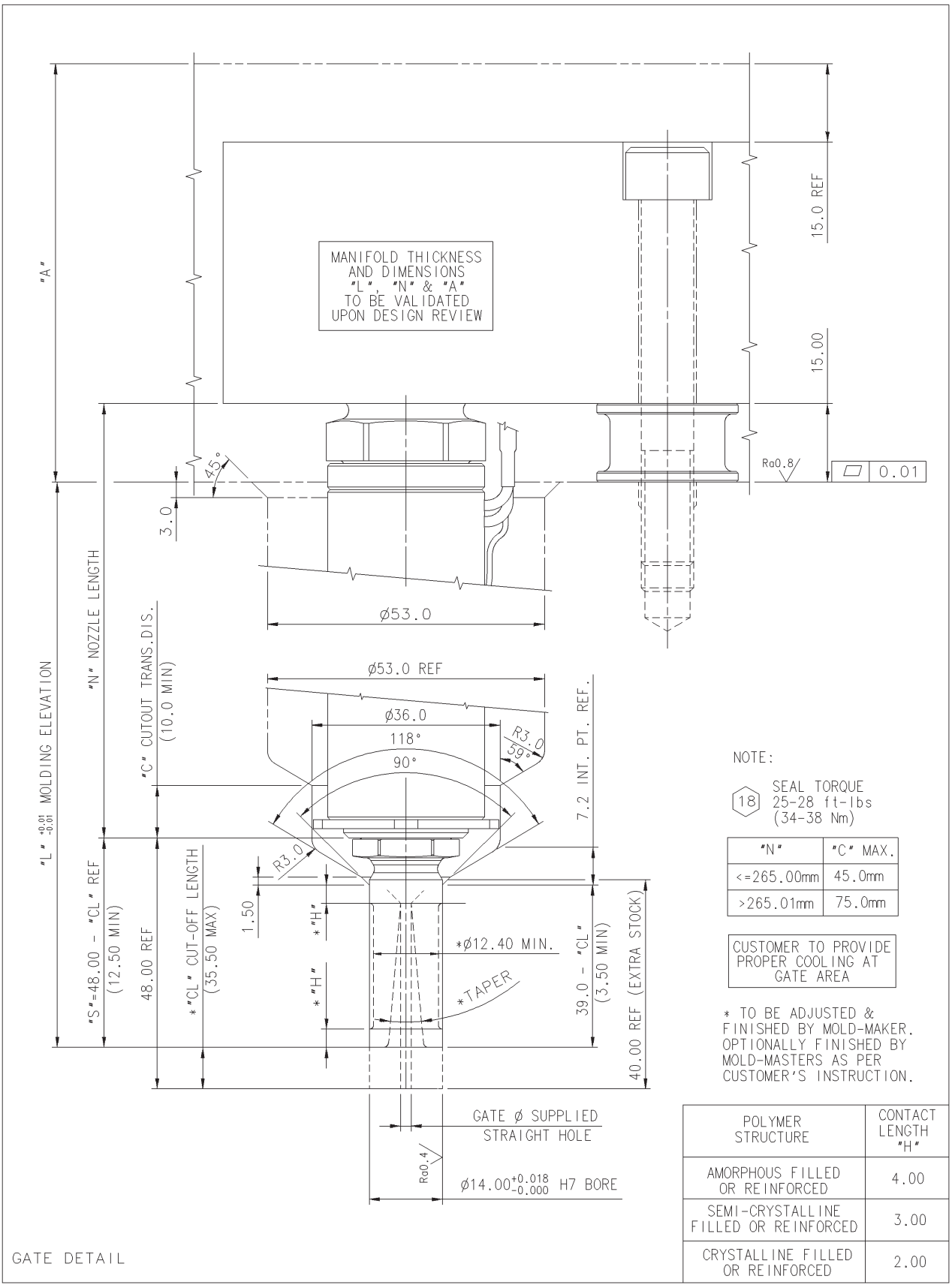

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POLYMER STRUCTURE	CONTACT LENGTH "H"
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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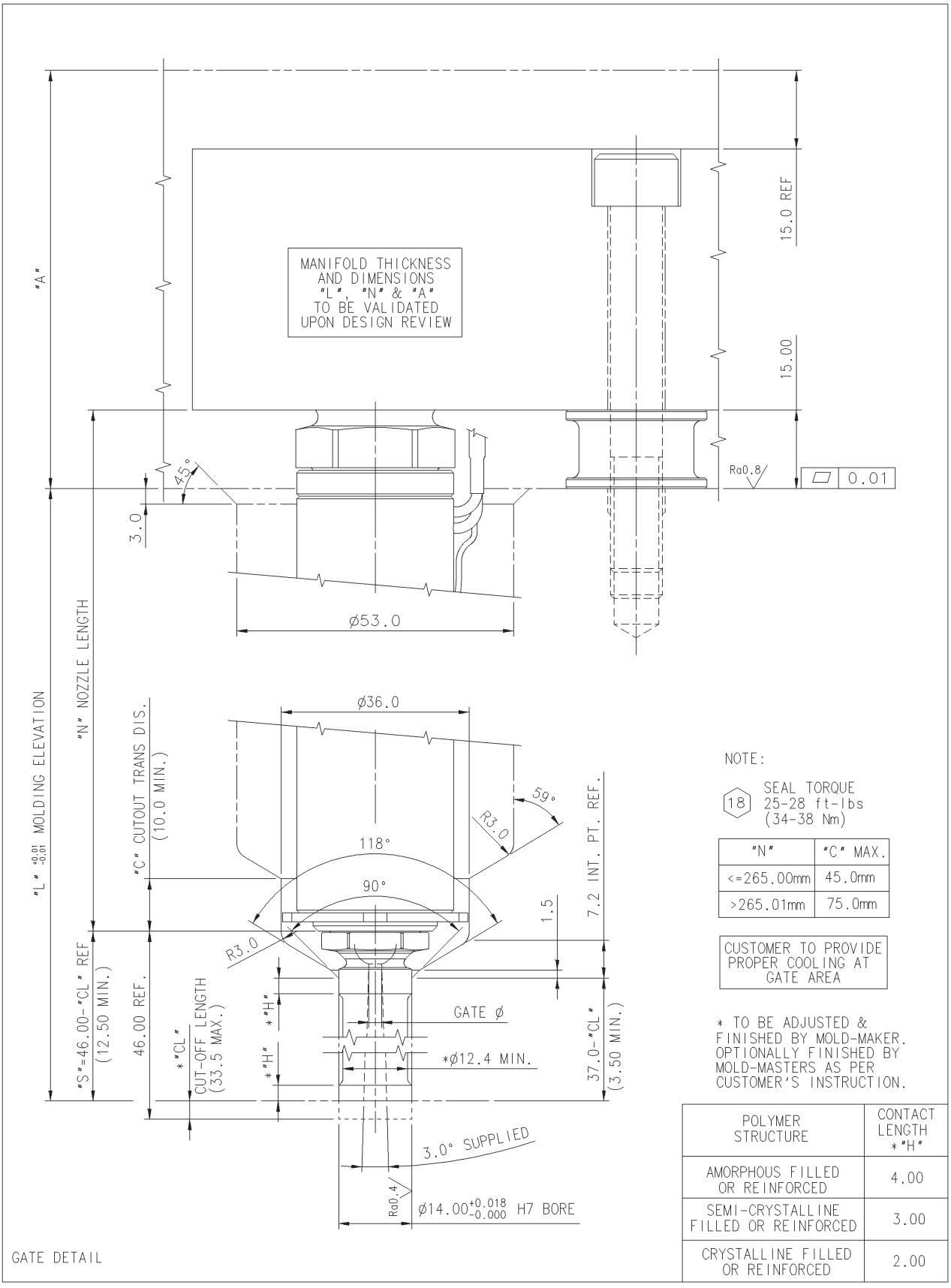

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POLYMER STRUCTURE	CONTACT LENGTH *"H"
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SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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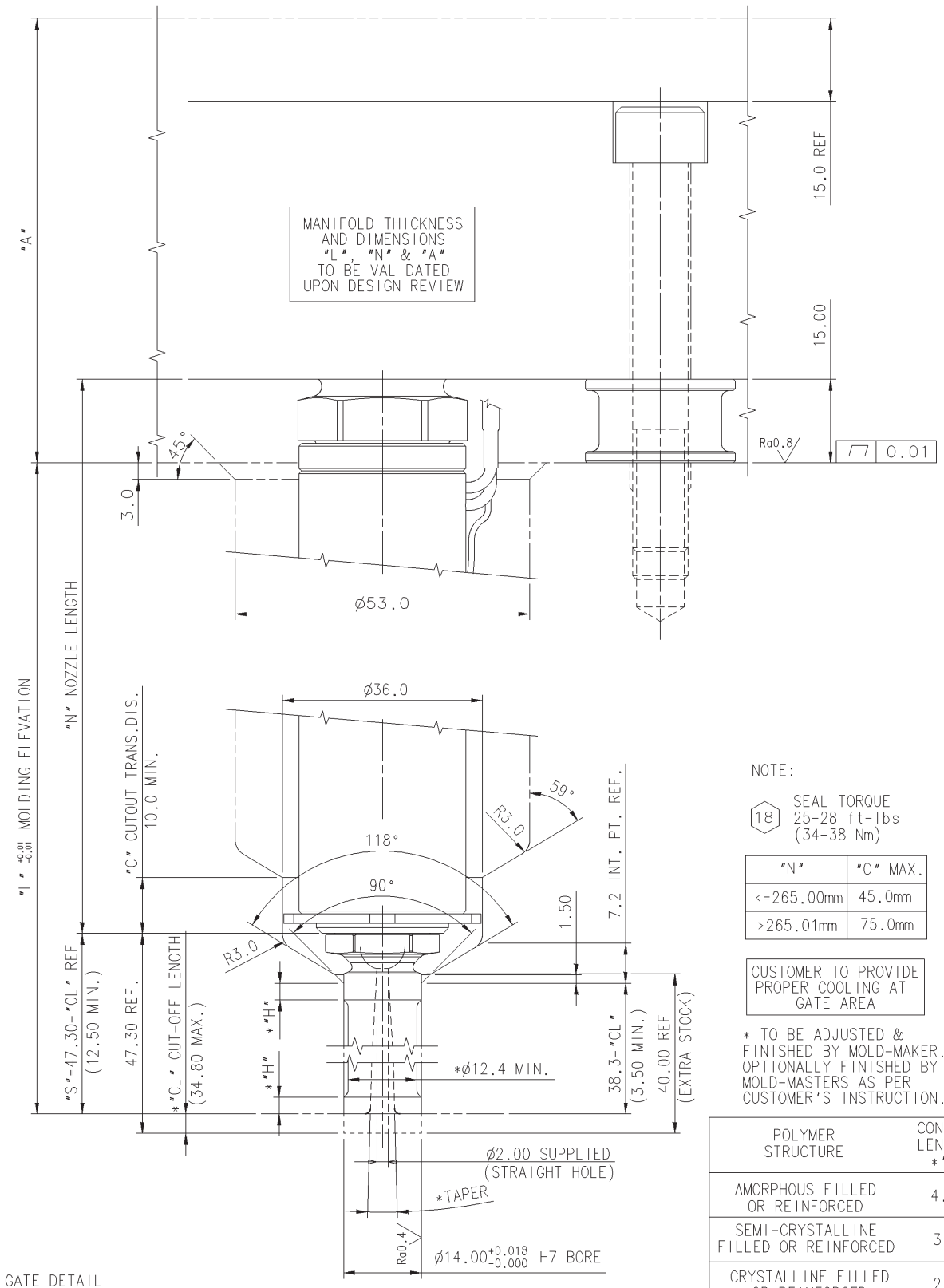

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SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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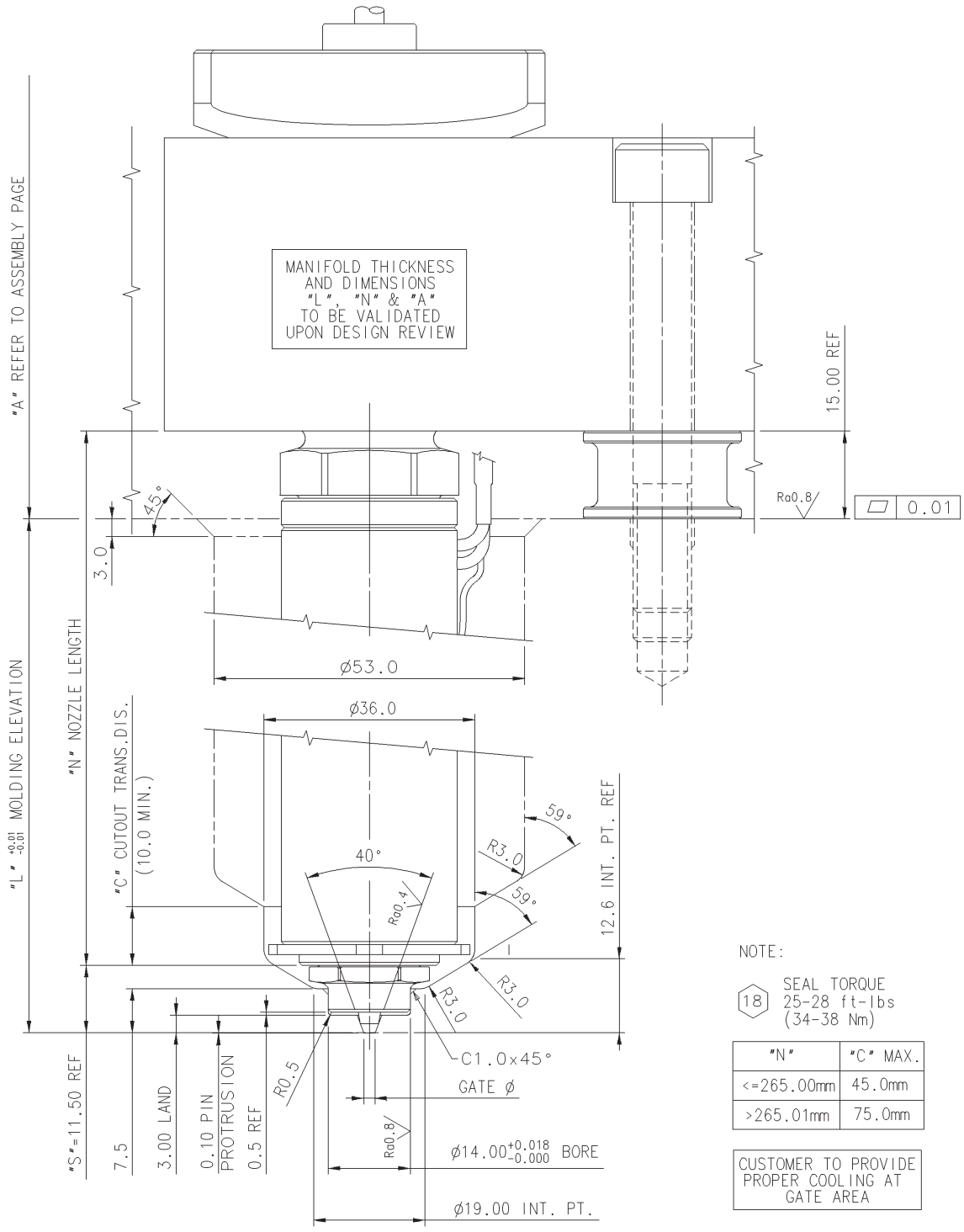

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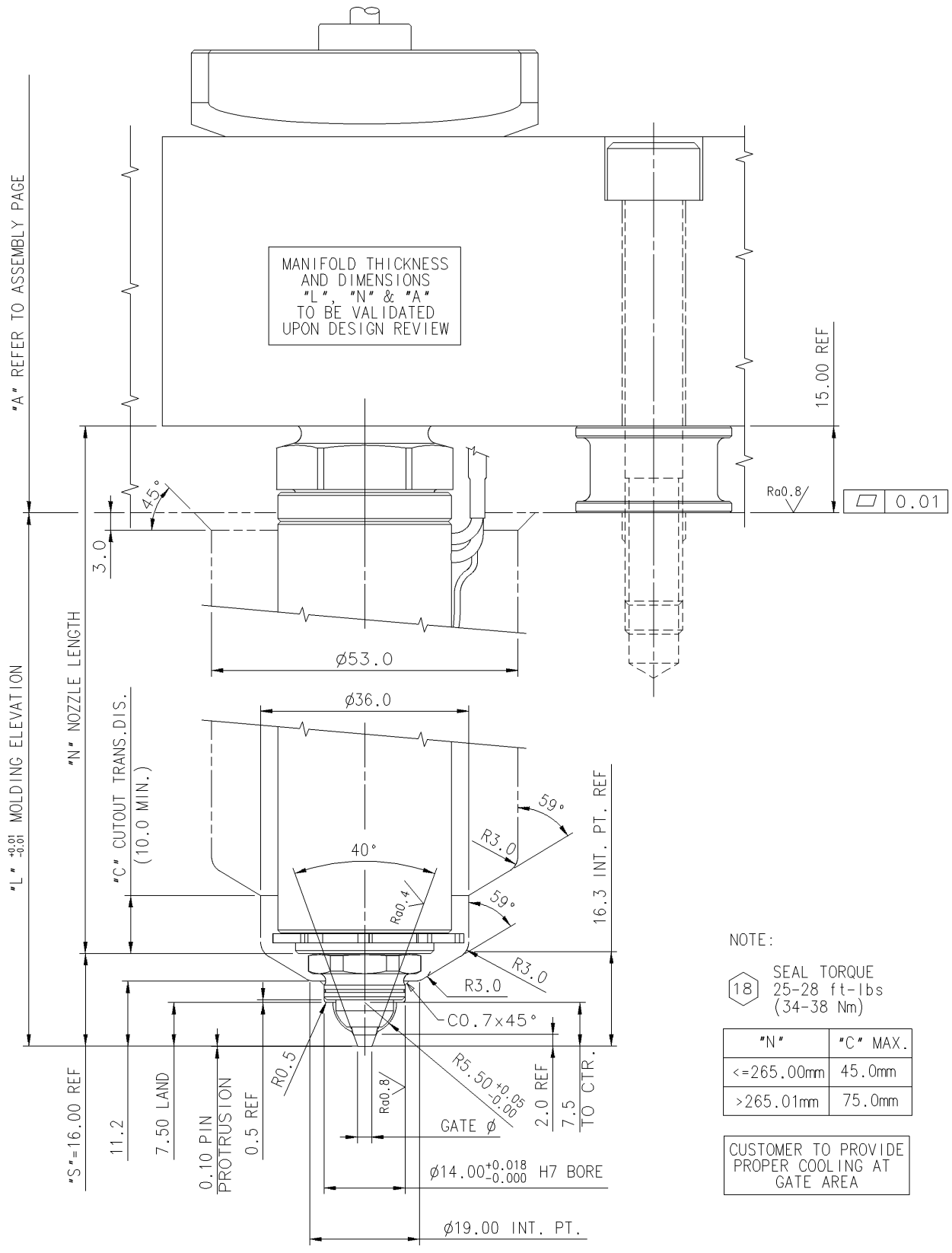

NOTE:

18 SEAL TORQUE
25-28 ft-lbs
(34-38 Nm)

"N"	"C" MAX.
<=265.00mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE
PROPER COOLING AT
GATE AREA

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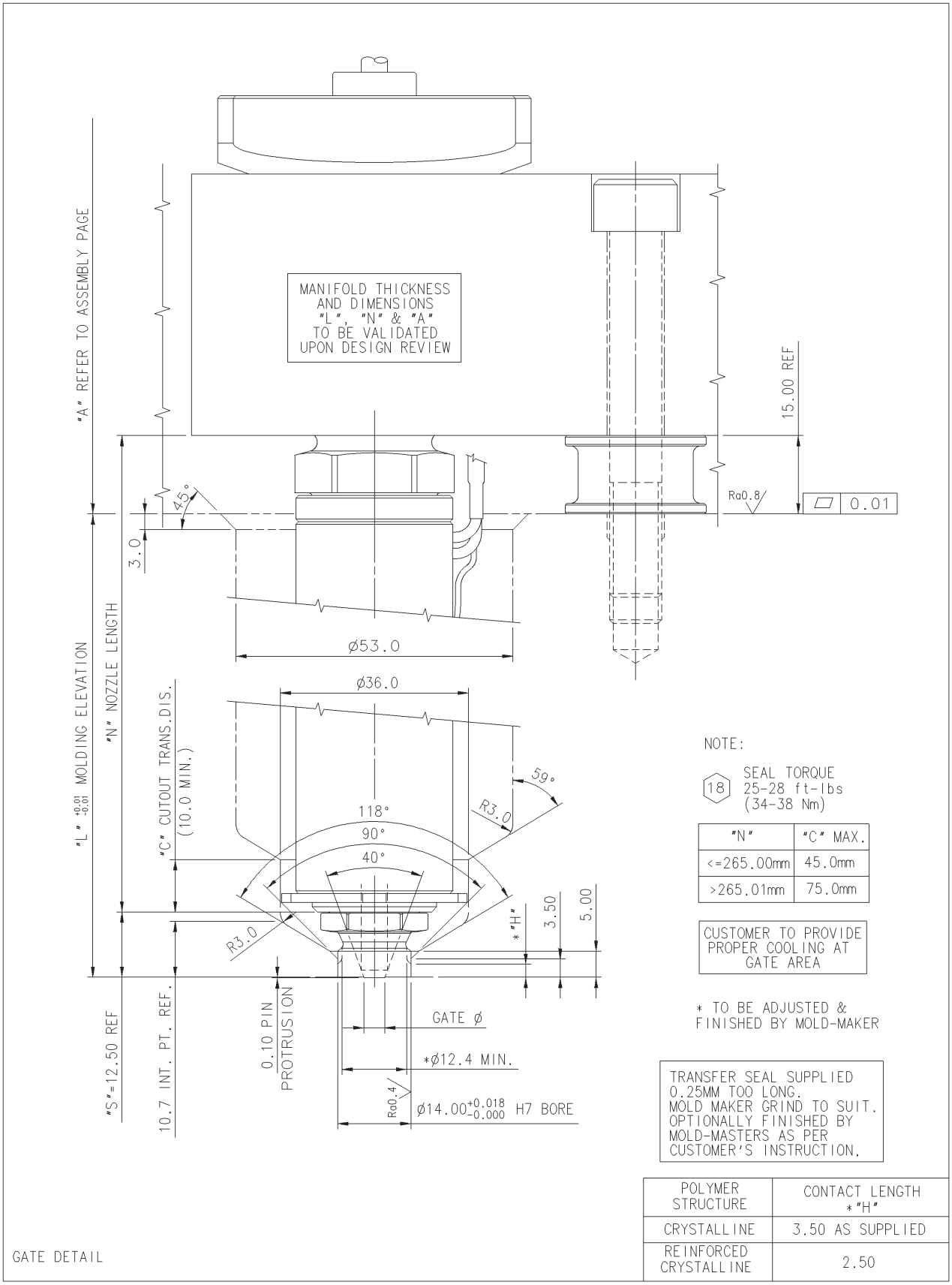
Mold Masters



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* TO BE ADJUSTED & FINISHED BY MOLD-MAKER

TRANSFER SEAL SUPPLIED 0.25MM TOO LONG. MOLD MAKER GRIND TO SUIT. OPTIONALLY FINISHED BY MOLD-MASTERS AS PER CUSTOMER'S INSTRUCTION.

POLYMER STRUCTURE	CONTACT LENGTH *"H"
CRYSTALLINE	3.50 AS SUPPLIED
REINFORCED CRYSTALLINE	2.50

GATE DETAIL

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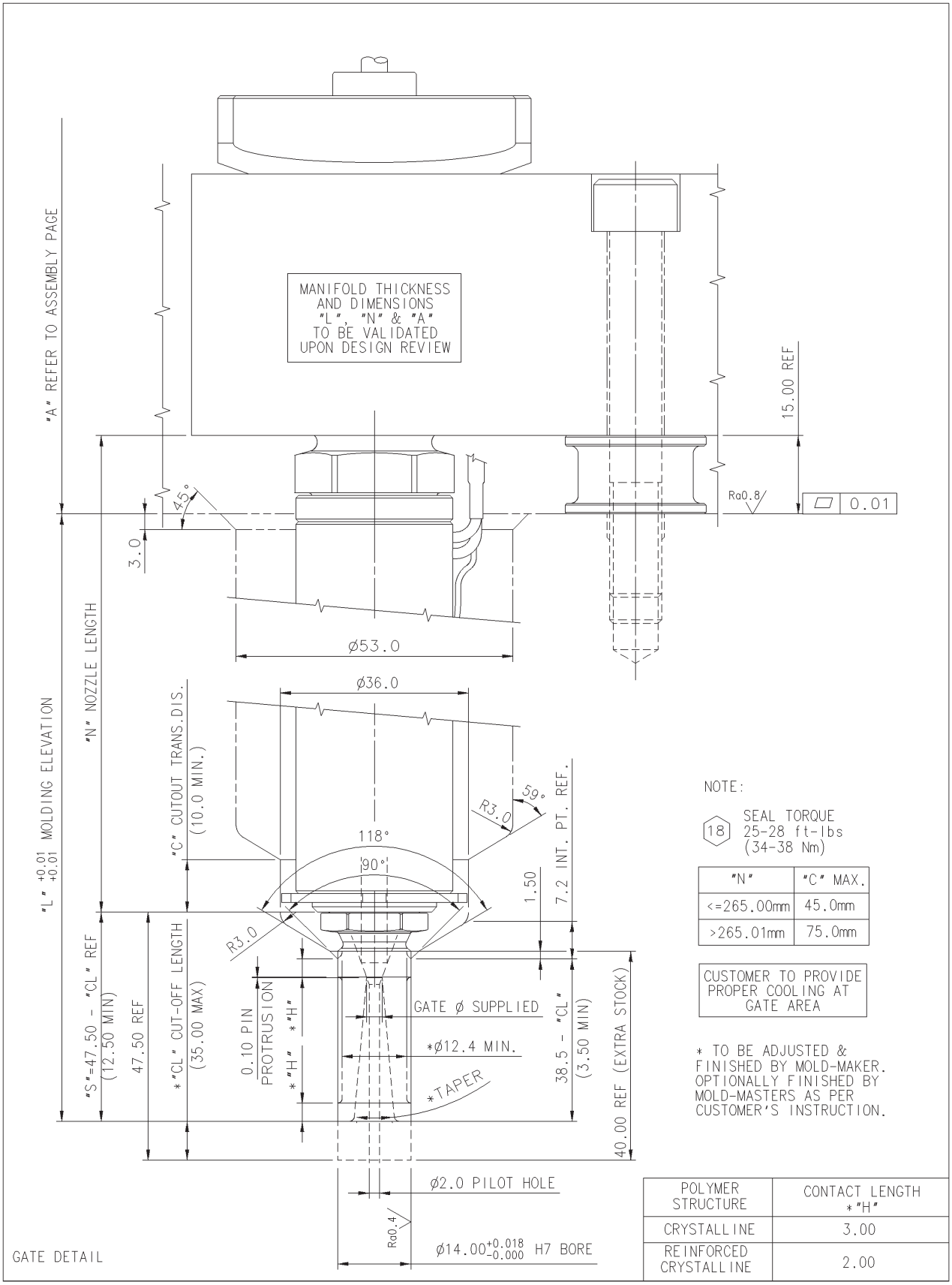

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REINFORCED CRYSTALLINE	2.00

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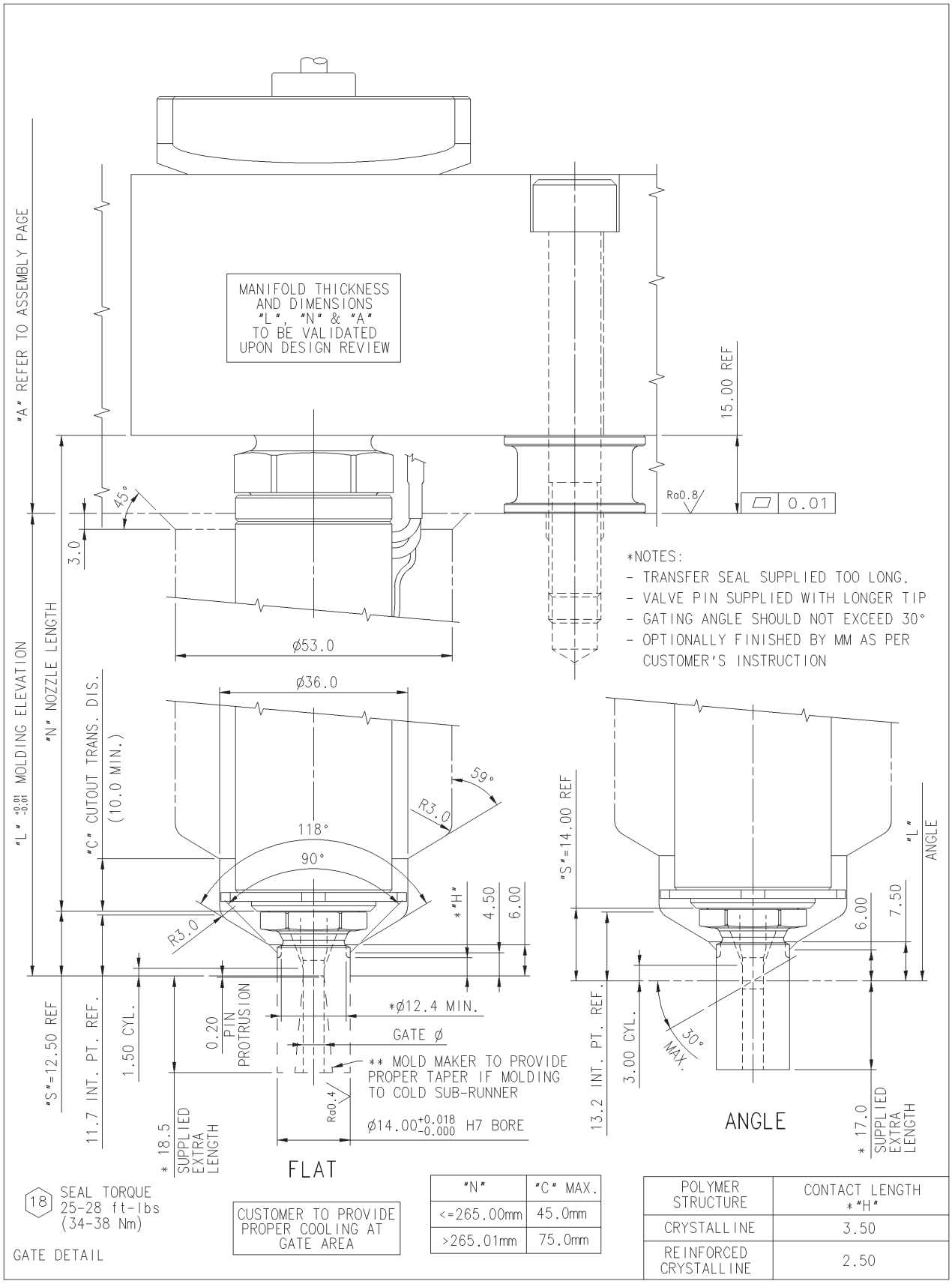

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CRYSTALLINE	3.50
REINFORCED CRYSTALLINE	2.50

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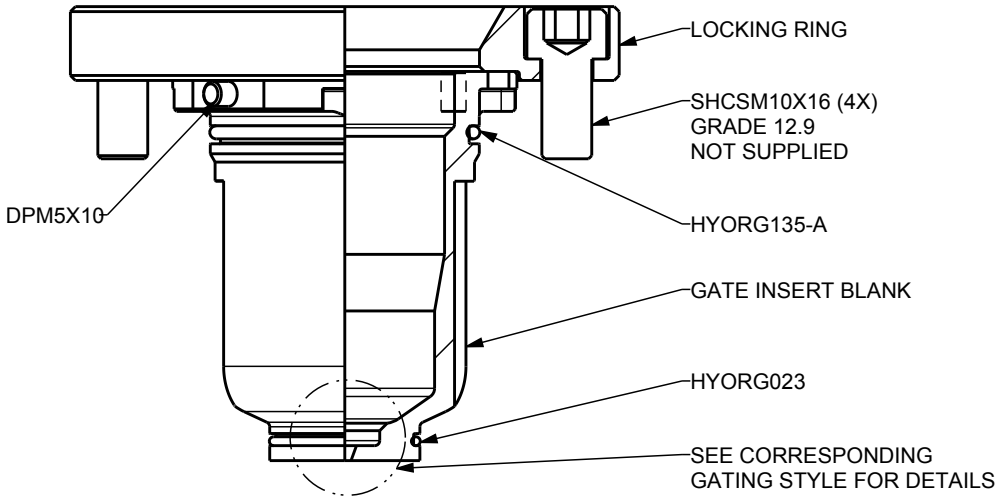
APPLICATIONS WITHOUT SUPPORTING TUBE



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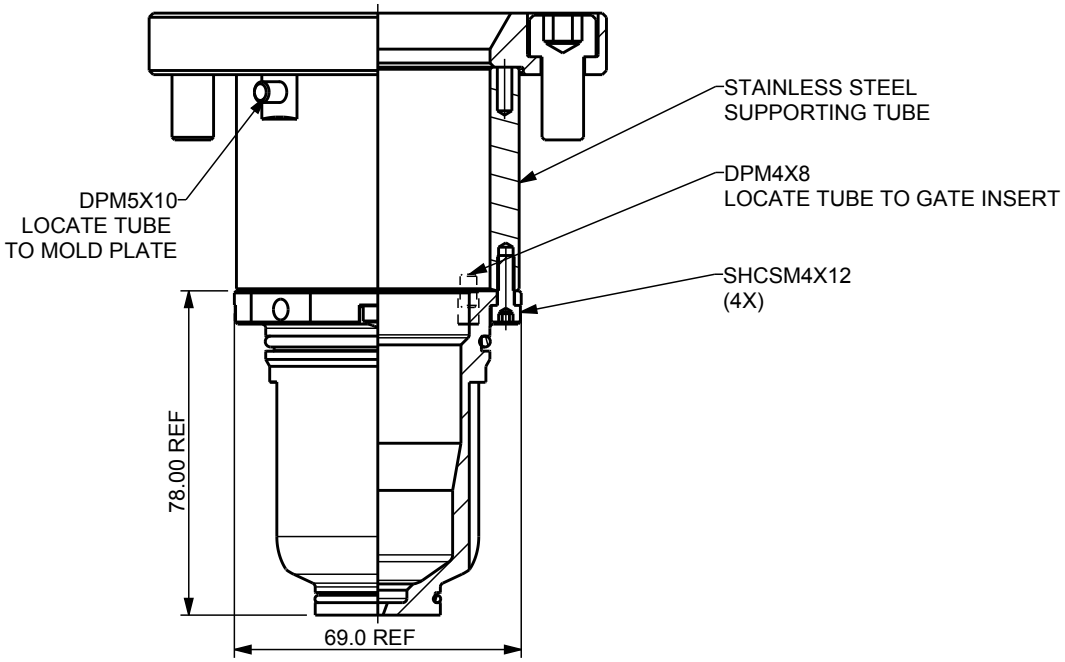

WATER COOLED GATE INSERT OPTIONS		
GATE INSERT BLANK	E-TYPE TORPEDO	BI-METALLIC C-VALVE
	GIWFS5TEABLK01	GIWFS5BVABLK01
LOCKING RING	LOCKRING004	
STAINLESS STEEL TUBE RAW MATERIAL	SST304-68.0X7.0	

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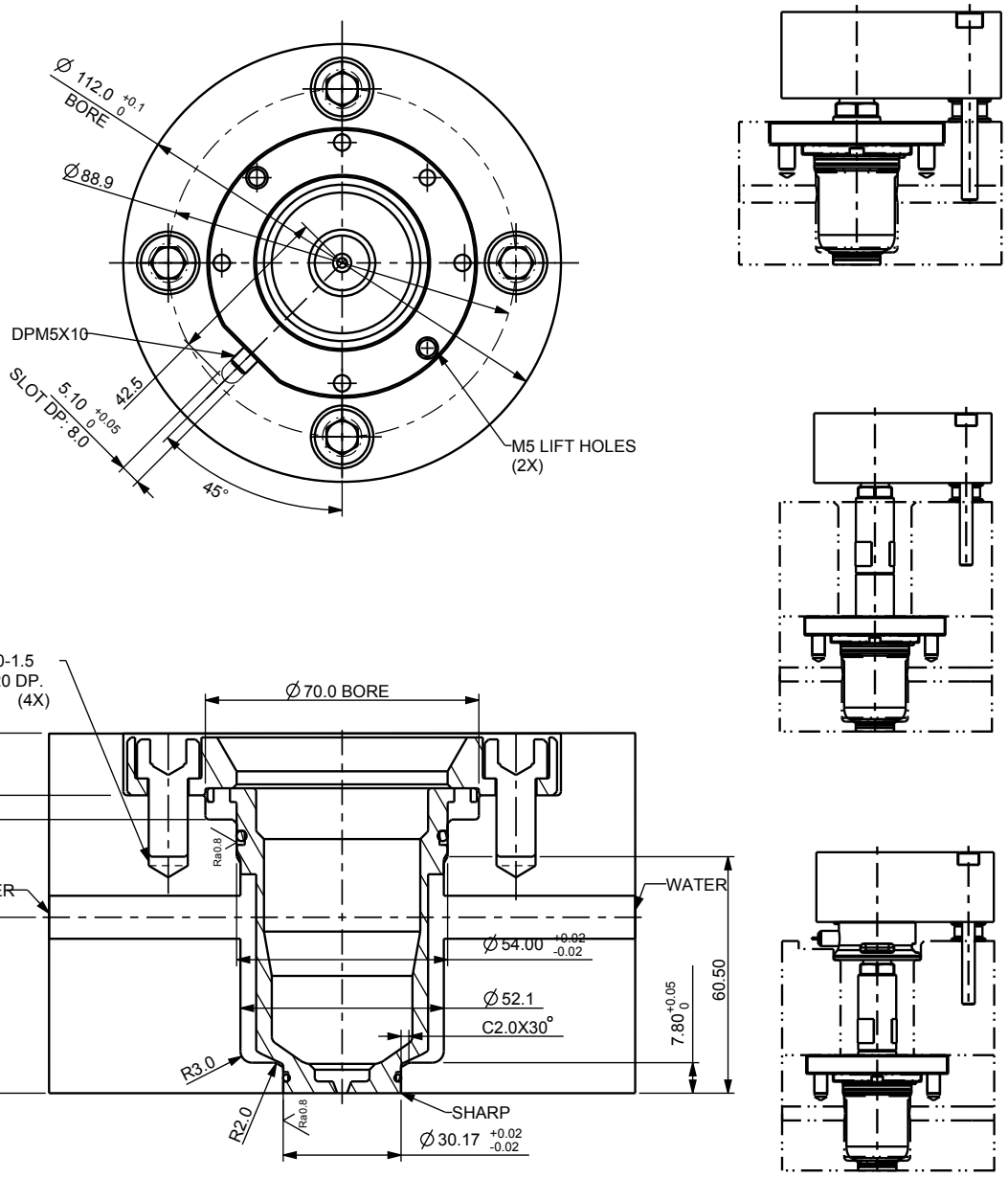
APPLICATIONS WITHOUT SUPPORTING TUBE



NOTE:
* NORMALLY USED FOR APPLICATIONS WITH SHORT NOZZLE LENGTH,
* FOR NOZZLE LENGTH SHORTER THAN 90.0mm, CONSIDER CUTTING SLOT ON LOCKING RING FOR WIRING EXIT,
* WATER CHANNEL ELEVATION COULD BE MOVED UP TO 50.0mm BY CHANGING THE LOCKING RING ORIENTATION.

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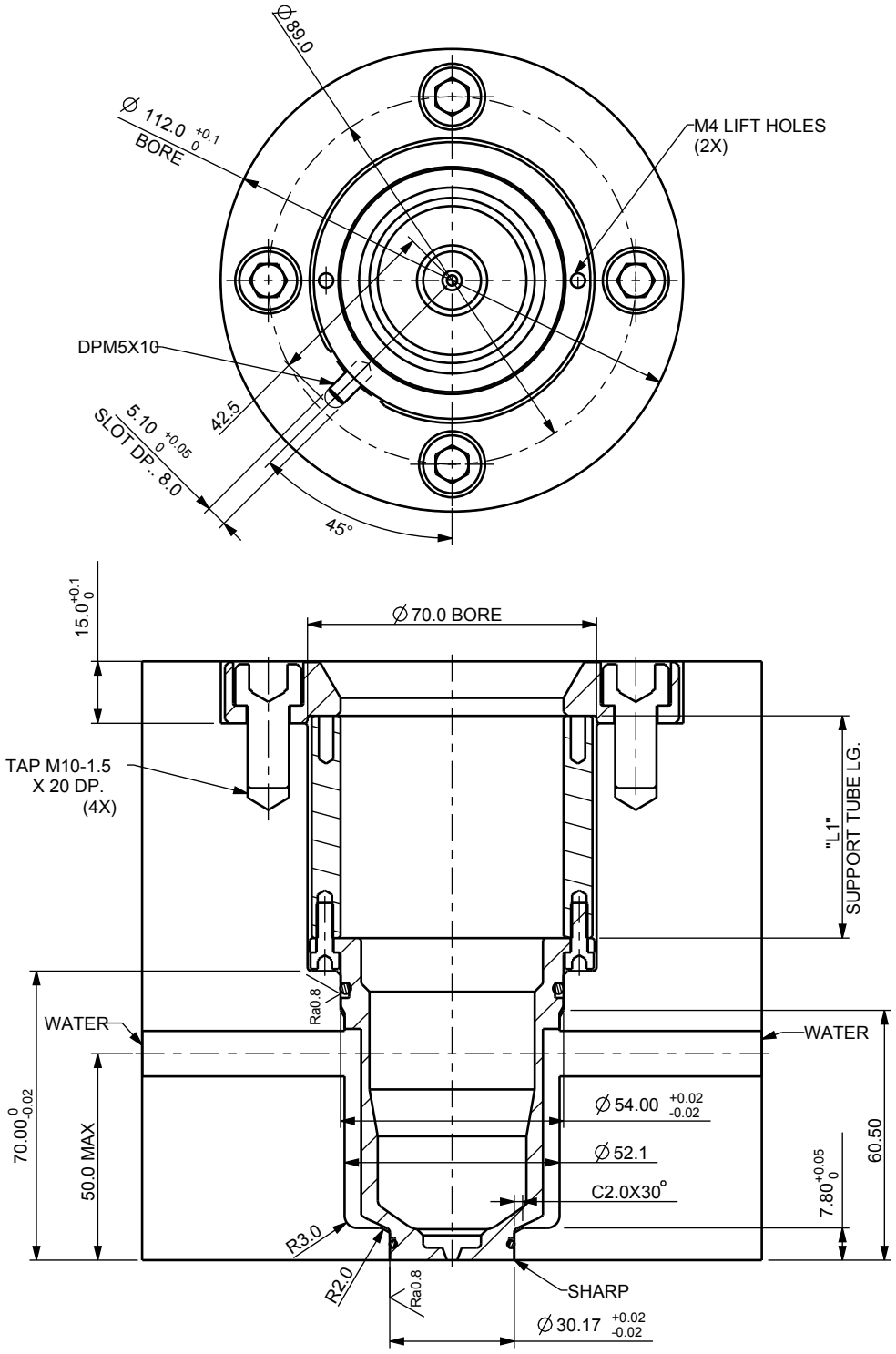
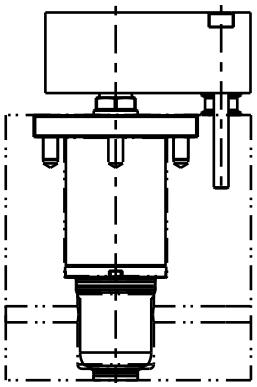
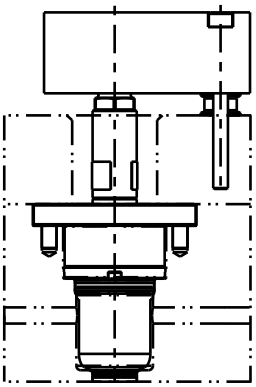
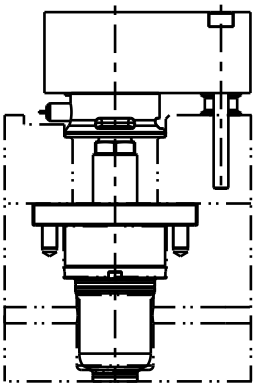
APPLICATIONS WITH SUPPORTING TUBE









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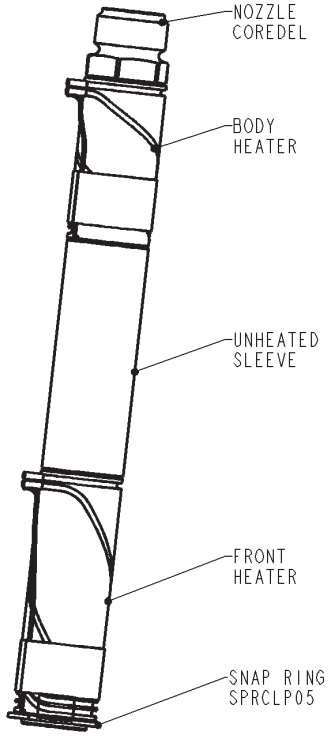

MODEL FOR REFERENCE ONLY

FRONT HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060FASM04	60.0	24.0	30.0	525W
HTRSLV090FASM04	90.0	24.0	30.0	525W

BODY HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060RASM04	60.0	24.0	30.0	450W
HTRSLVI20RASM04	I20.0	24.0	30.0	400W

NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	BODY HEATER	UNHEATED SLEEVE	BODY HEATER	UNHEATED SLEEVE	FRONT HEATER
80.00-I10.00	N/A	N/A	N/A	5.0-35.0	HTRSLV060FASM04
I10.01-I40.00	N/A	N/A	N/A	5.0-35.0	HTRSLV090FASM04
I40.01-205.00	N/A	N/A	HTRSLV060RASM04	5.0-70.0	HTRSLV060FASM04
205.01-265.00	N/A	N/A	HTRSLVI20RASM04	I0.0-70.0	HTRSLV060FASM04
265.01-295.00	N/A	N/A	HTRSLVI20RASM04	40.0-70.0	HTRSLV090FASM04
295.01-330.00	N/A	5.0-35.0	HTRSLVI20RASM04	65.0-70.0	HTRSLV090FASM04
330.01-425.00	HTRSLV060RASM04	22.5-70.0	HTRSLVI20RASM04	22.5-70.0	HTRSLV090FASM04
425.01-485.00	HTRSLVI20RASM04	40.0-70.0	HTRSLVI20RASM04	40.0-70.0	HTRSLV090FASM04

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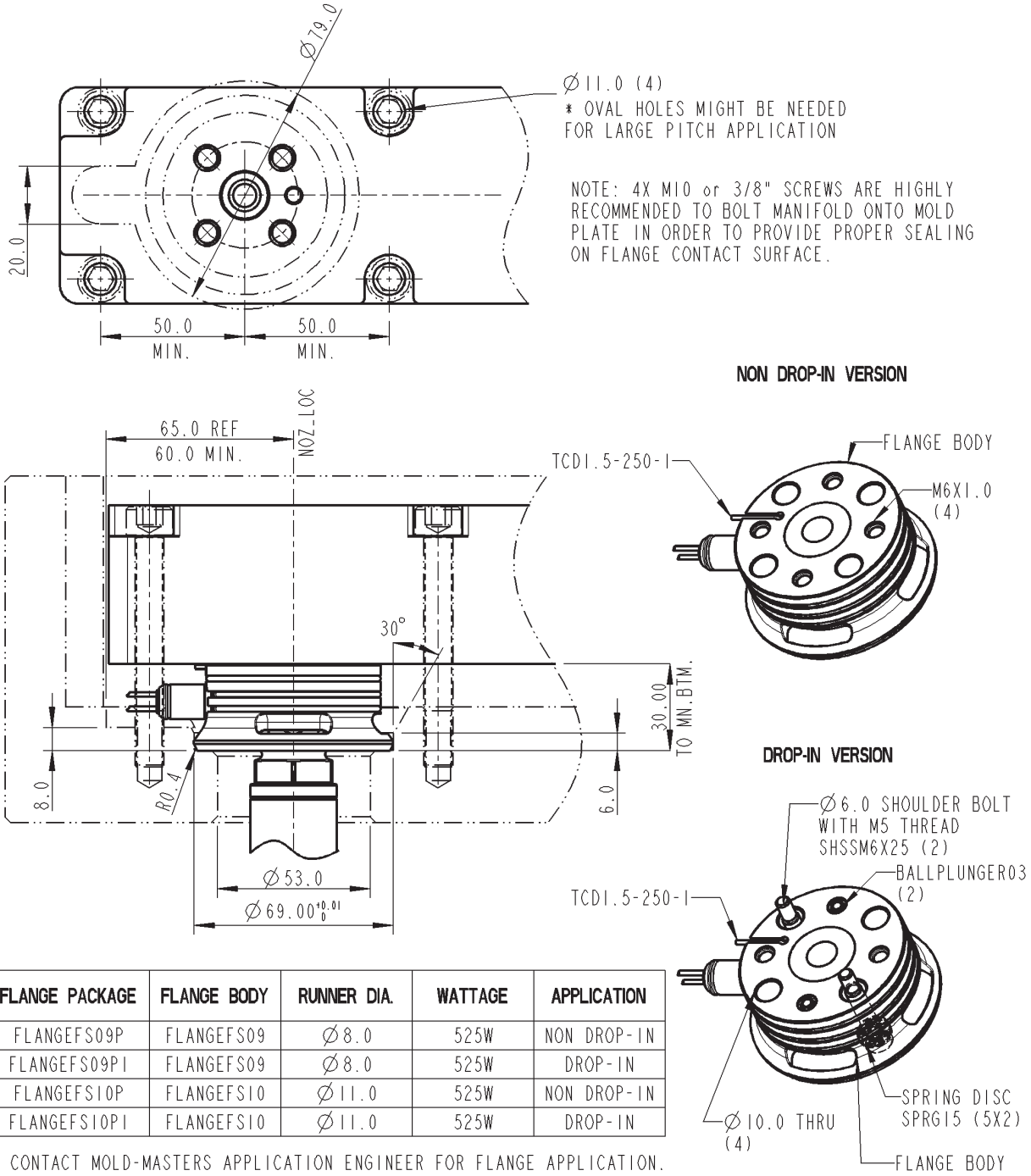

FLANGE PACKAGE	FLANGE BODY	RUNNER DIA.	WATTAGE	APPLICATION
FLANGEFS09P	FLANGEFS09	Ø8.0	525W	NON DROP-IN
FLANGEFS09PI	FLANGEFS09	Ø8.0	525W	DROP-IN
FLANGEFS10P	FLANGEFS10	Ø11.0	525W	NON DROP-IN
FLANGEFS10PI	FLANGEFS10	Ø11.0	525W	DROP-IN

* CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR FLANGE APPLICATION.

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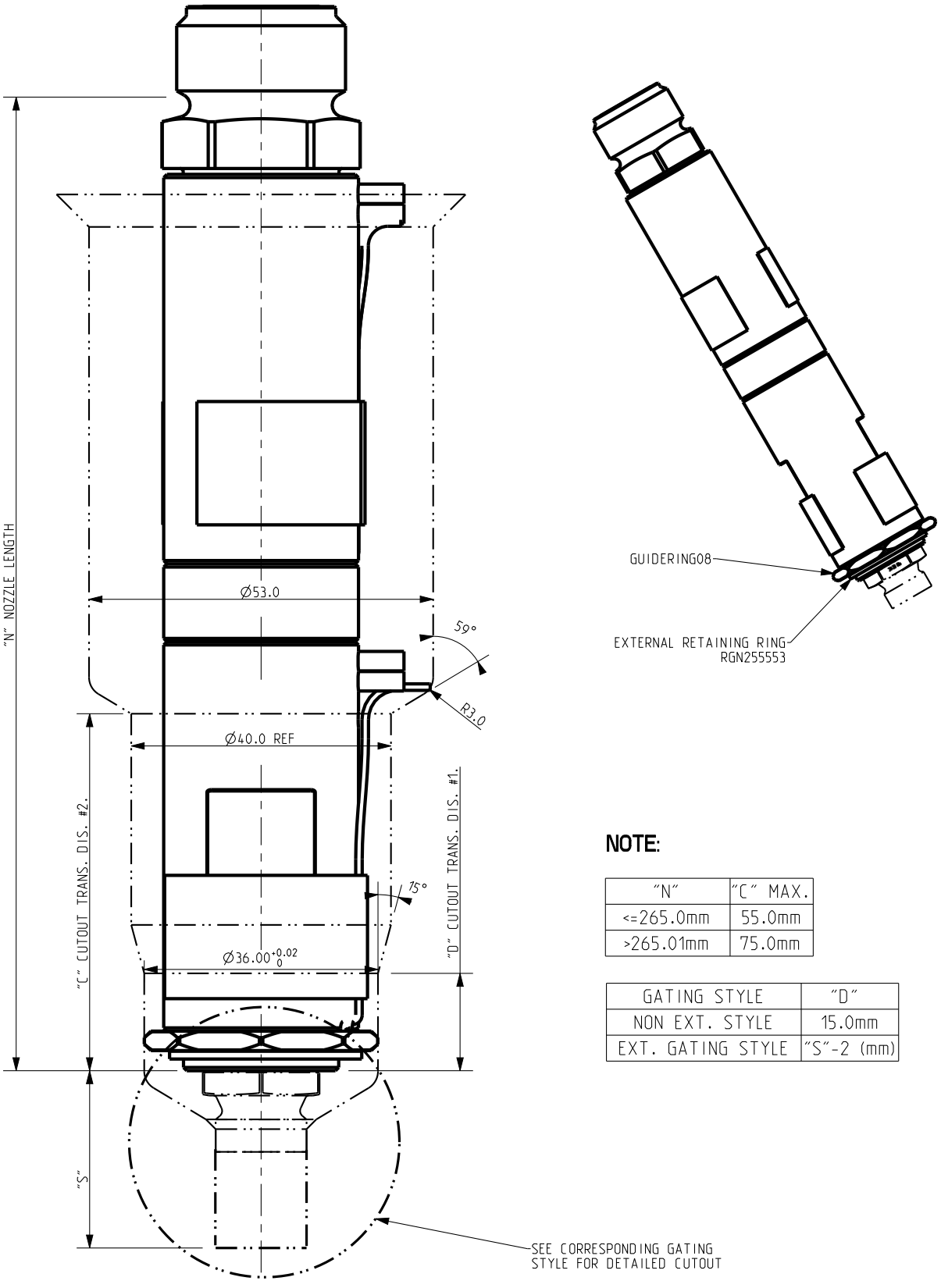
Centering Guide Ring (option)

05.01.085



NOTE:

"N"	"C" MAX.
<=265.0mm	55.0mm
>265.01mm	75.0mm

GATING STYLE	"D"
NON EXT. STYLE	15.0mm
EXT. GATING STYLE	"S"-2 (mm)

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Gate Seal Options

GATING STYLE	PAGE	NOZZLE LENGTH RANGE	GATE ∅	EXTRA STOCK (SUPPLIED LG.)	GATE SEAL OPTIONS	GATE SEAL PACKAGES
E-TYPE TORPEDO	06.01.015	80.0 - 700.0	∅1.5-∅2.5	0.0	TSF058 + TPF006	TSF058P
F-TYPE TORPEDO	06.01.020	80.0 - 700.0	∅2.00	0.25	TSF014 + TPF002	TSF014P FOR PROCESSING TEMP.>280°C
					TSF014 + TPF002-I	TSF014PI FOR PROCESSING TEMP.<280°C
			∅2.50	0.25	TSF015 + TPF002	TSF015P FOR PROCESSING TEMP.>280°C
					TSF015 + TPF002-I	TSF015PI FOR PROCESSING TEMP.<280°C
			∅3.00	0.25	TSF016 + TPF002	TSF016P FOR PROCESSING TEMP.>280°C
					TSF016 + TPF002-I	TSF016PI FOR PROCESSING TEMP.<280°C
EXTENDED F-TYPE TORPEDO	06.01.025	80.0 - 700.0	∅2.00	50.0	TSF037 + TPF002	TSF037P FOR PROCESSING TEMP.>280°C
					TSF037 + TPF002-I	TSF037PI FOR PROCESSING TEMP.<280°C
			∅2.50	50.0	TSF038 + TPF002	TSF038P FOR PROCESSING TEMP.>280°C
					TSF038 + TPF002-I	TSF038PI FOR PROCESSING TEMP.<280°C
			∅3.00	50.0	TSF039 + TPF002	TSF039P FOR PROCESSING TEMP.>280°C
					TSF039 + TPF002-I	TSF039PI FOR PROCESSING TEMP.<280°C
HOT SPRUE	06.01.030	80.0 - 700.0	∅2.50	41.5	TSF017	N/A
			∅3.00	41.5	TSF018	
			∅3.50	41.5	TSF019	
			∅4.00	41.5	TSF020	
			∅5.00	41.5	TSF021	
EXTENDED HOT SPRUE	06.01.035	80.0 - 700.0	∅2.5-∅5.0	50.0	TSF040 (∅2.0 HOLE SUPPLIED)	
BI-METALLIC C-VALVE	06.01.036	80.0 - 700.0	∅4.0-∅5.0	0.0	TSF062 + TSLF0007	TSF062P ∅8.0mm VALVE PIN
					TSF062 + TSLF0008	TSF062PI ∅6.3mm VALVE PIN
BI-MET. BALLNOSE C-VALVE	06.01.037	80.0 - 700.0	∅2.0-∅5.1	0.0	TS010018+TSL010008	TS010018P4 ∅8.0mm VALVE PIN
		80.0 - 700.0	∅1.5-∅3.1	0.0	TS010018+TSL010018	TS010018P5 ∅5.0mm VALVE PIN
HOT VALVE	06.01.040	80.0 - 700.0	∅4.00	0.25	TSF022	N/A
			∅4.00	0.0	TSF022F	
			∅5.00	0.25	TSF023	
EXTENDED HOT VALVE	06.01.045	80.0 - 700.0	∅4.00	50.0	TSF052	
			∅5.00	50.0	TSF053	
CYLINDRICAL HOT VALVE	06.01.050	80.0 - 700.0	∅4.00	N/A	TSF024 + VPG023	TSF024P
			∅5.00	N/A	TSF025 + VPG023	TSF025P

NOTE:
* FINISHED GATE SEALS ("F") ARE AVAILABLE FOR F-TYPE, EXT. F-TYPE, HOT SPRUE, EXT. HOT SPRUE, HOT VALVE, EXT. HOT VALVE. CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR DETAIL
* CUSTOM SEALS CAN BE MANUFACTURED WITH APPLICATION ENGINEER APPROVAL
* SEE PG.02.01.060 FOR TYPICAL TORQUE VALUES

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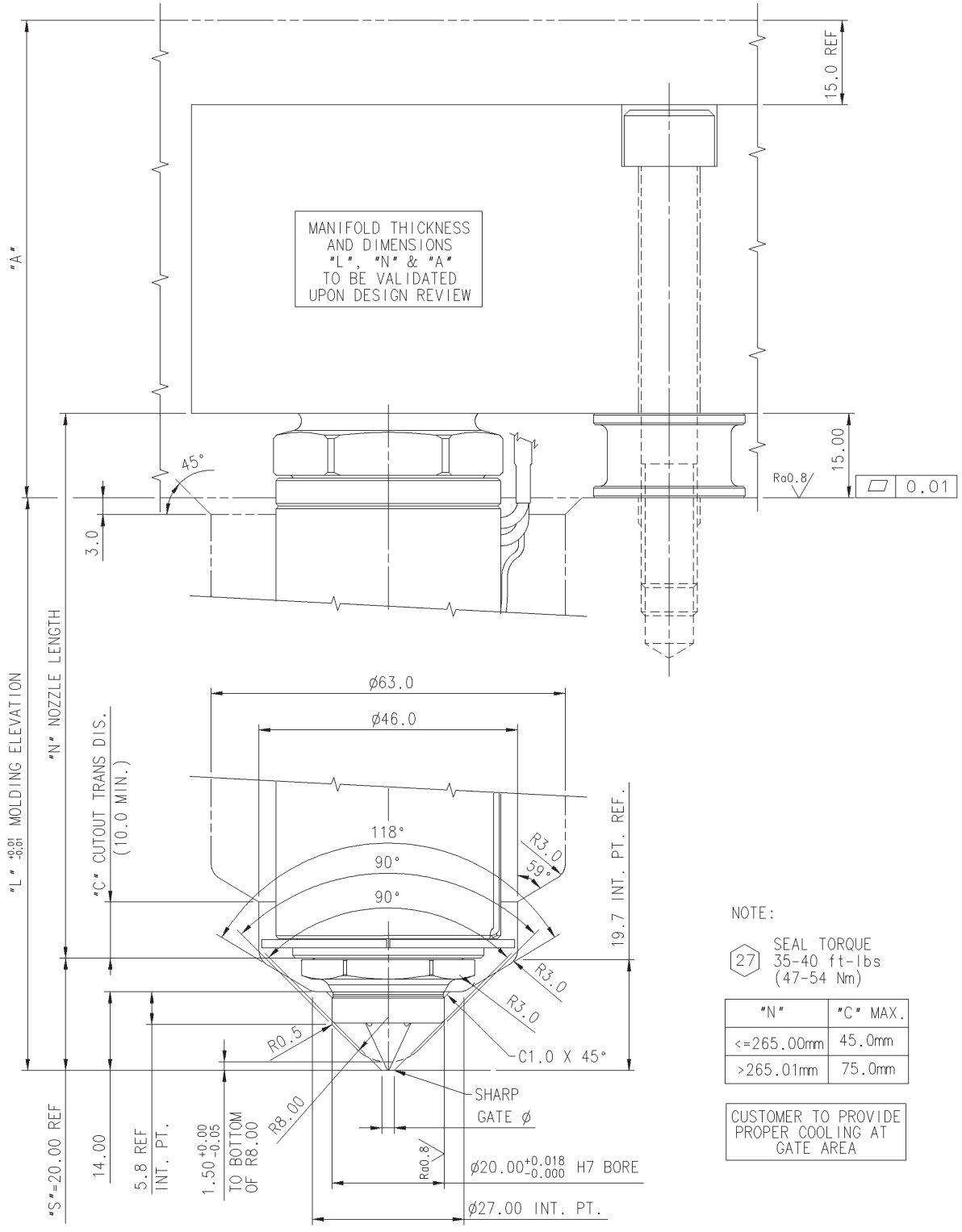

GATE DETAIL

NOTE:

27 SEAL TORQUE 35-40 ft-lbs (47-54 Nm)

"N"	"C" MAX.
<=265.00mm	45.0mm
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CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA

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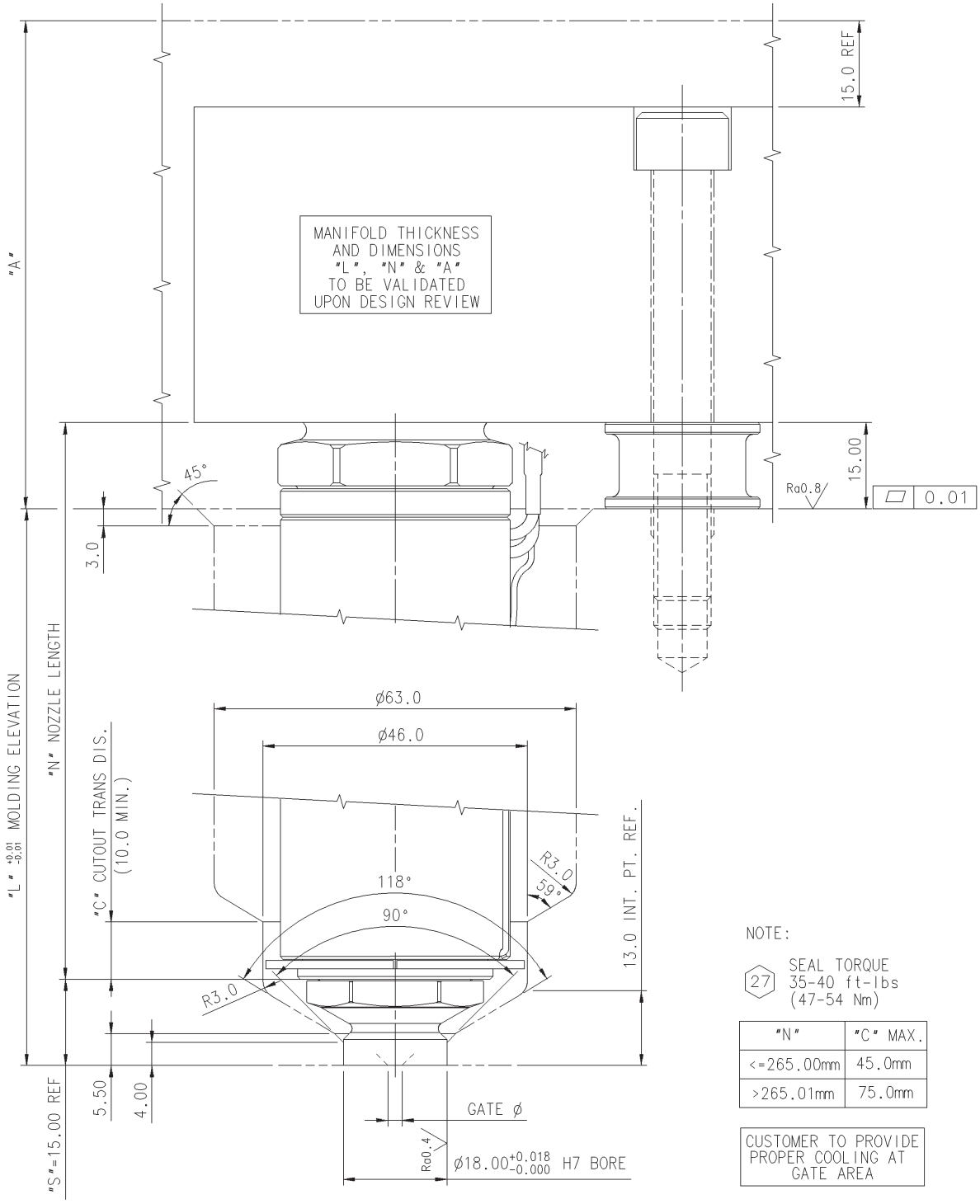

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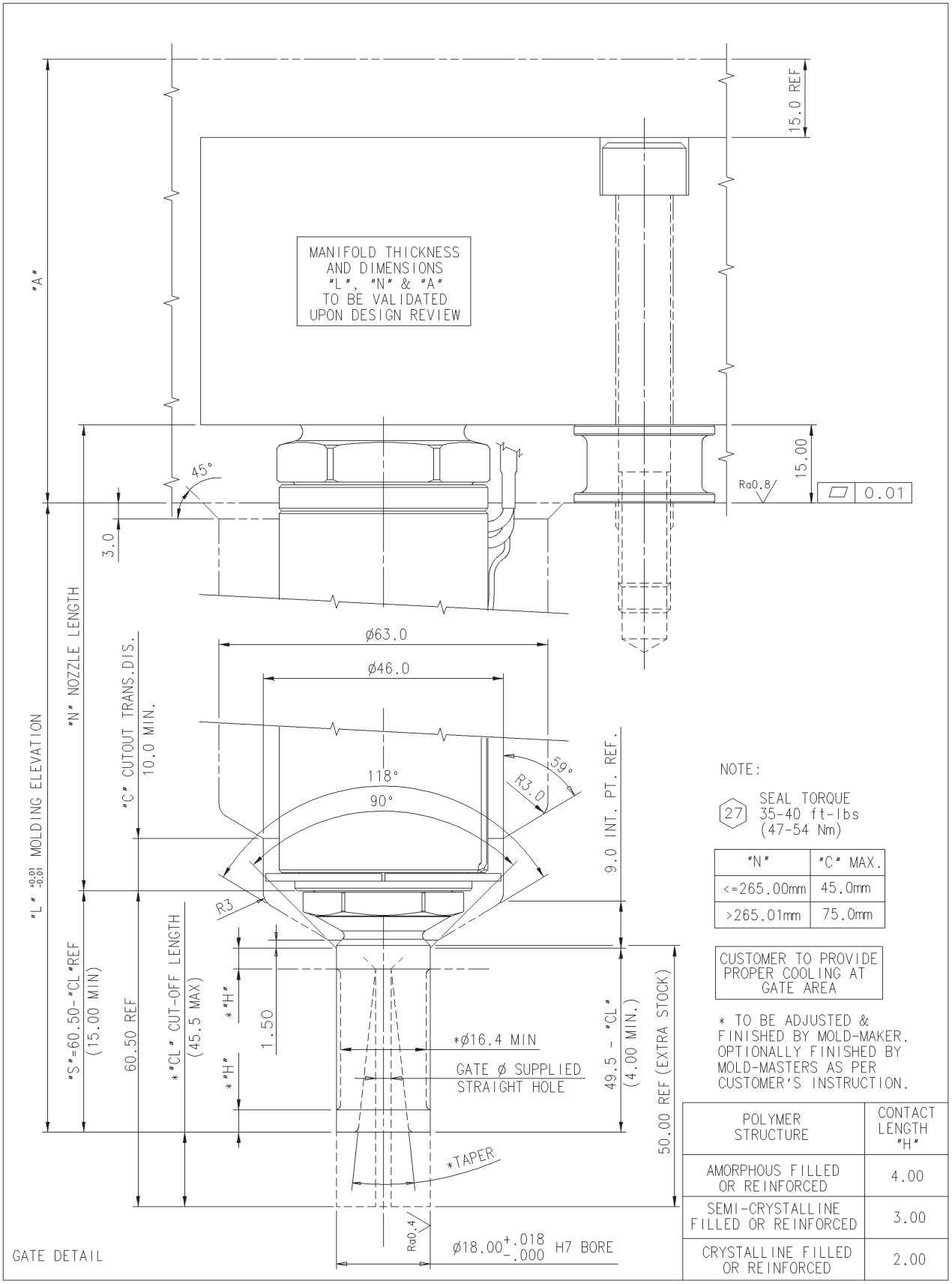

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POLYMER STRUCTURE	CONTACT LENGTH "H"
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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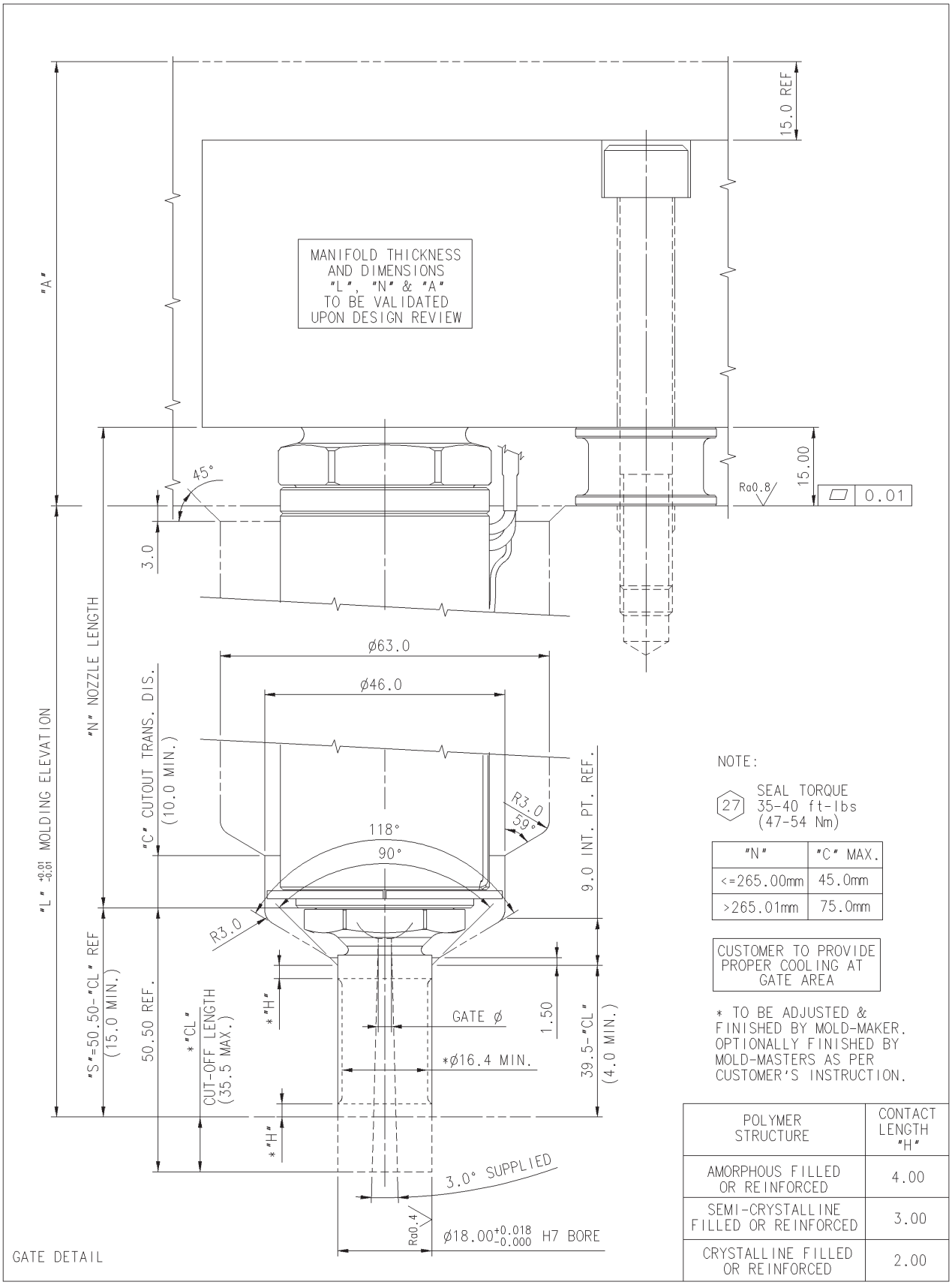

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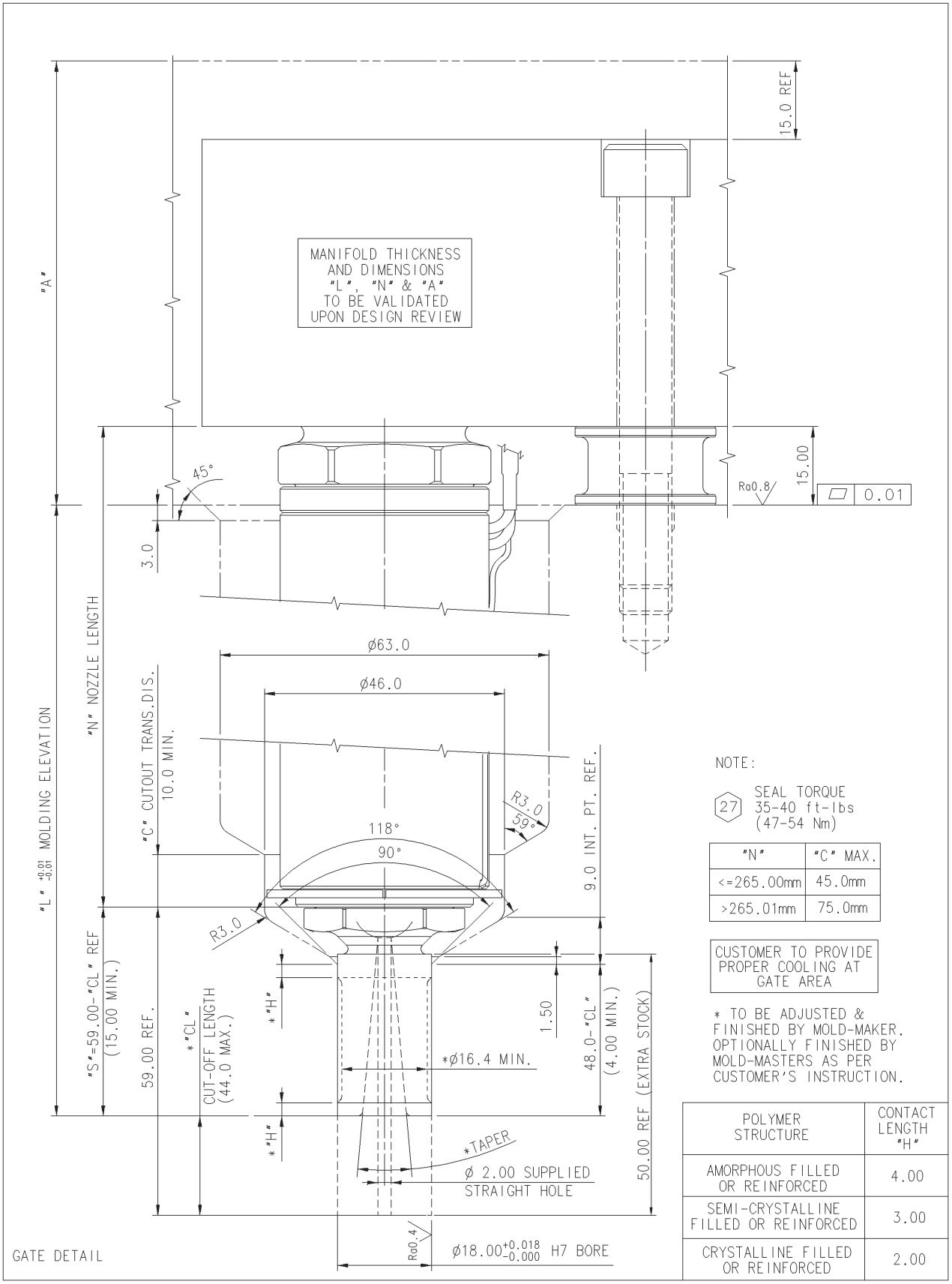

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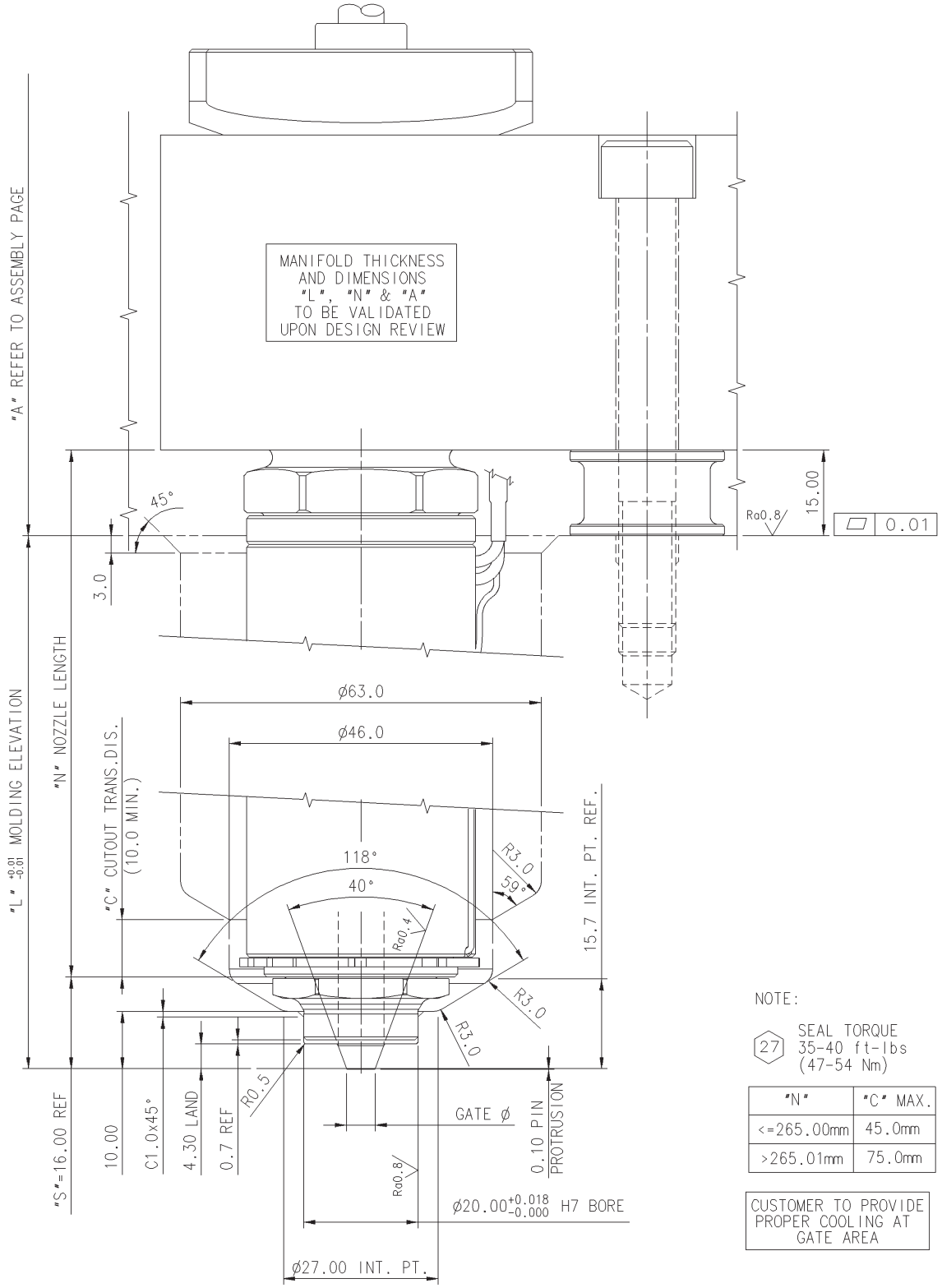

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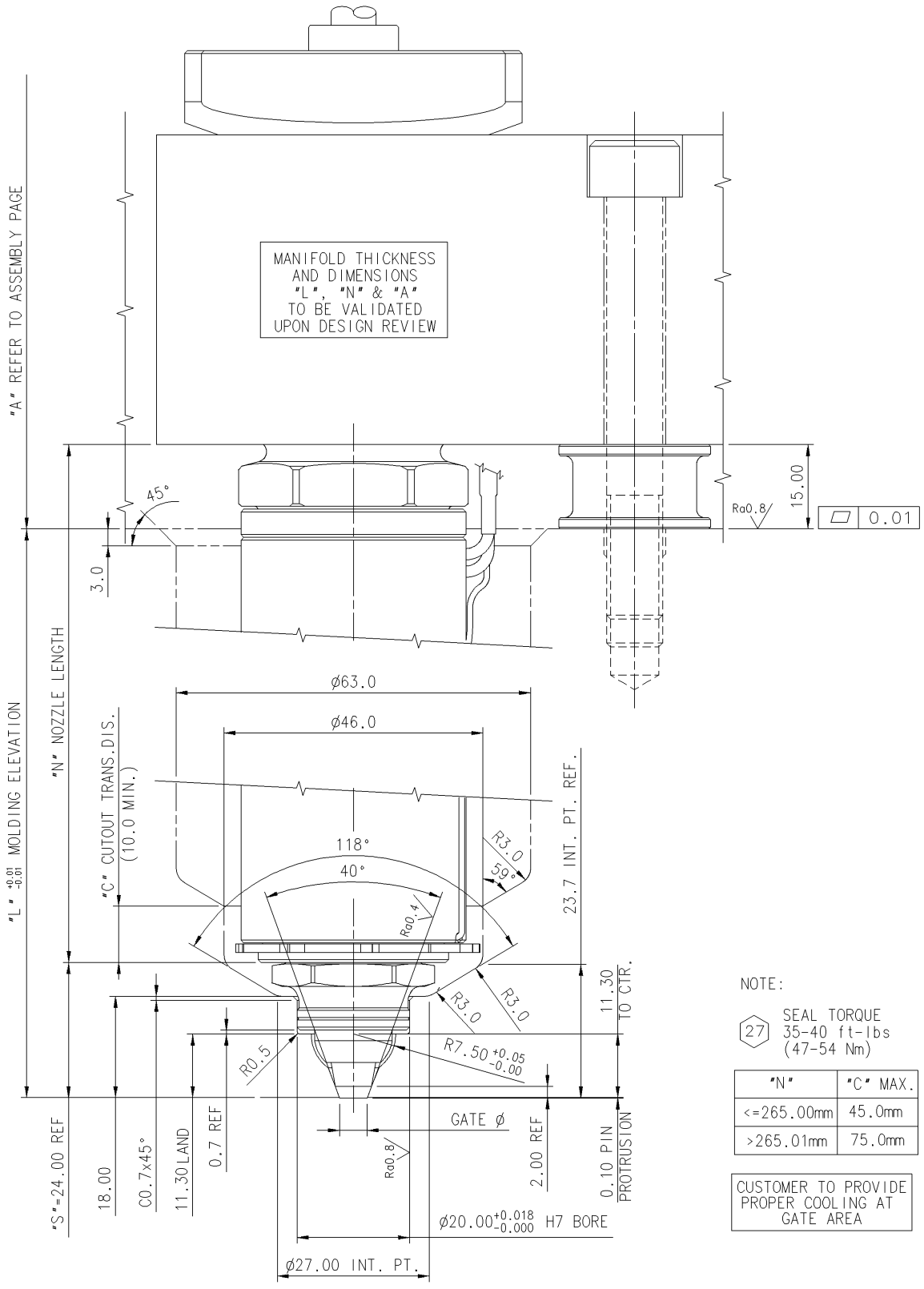

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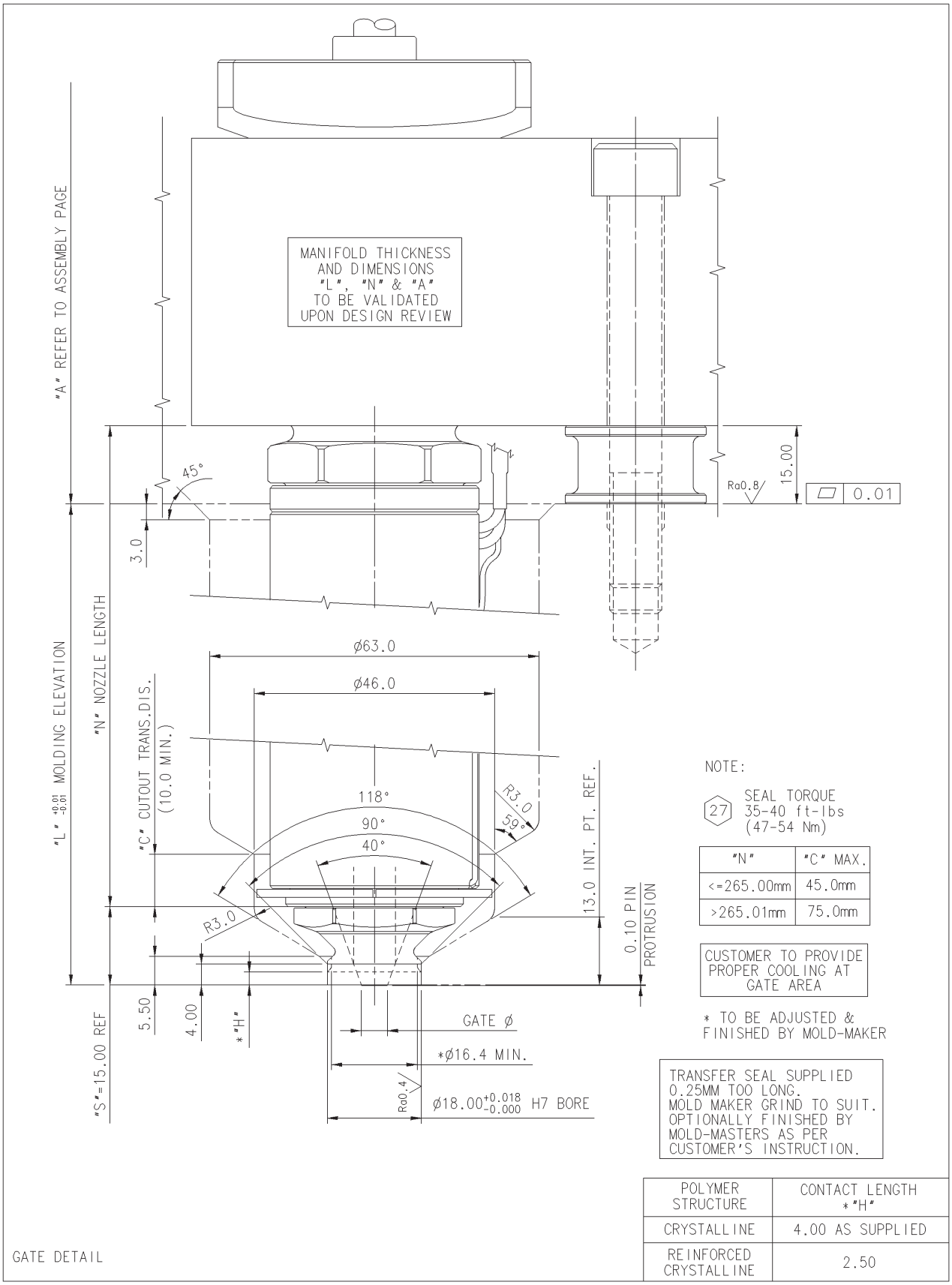

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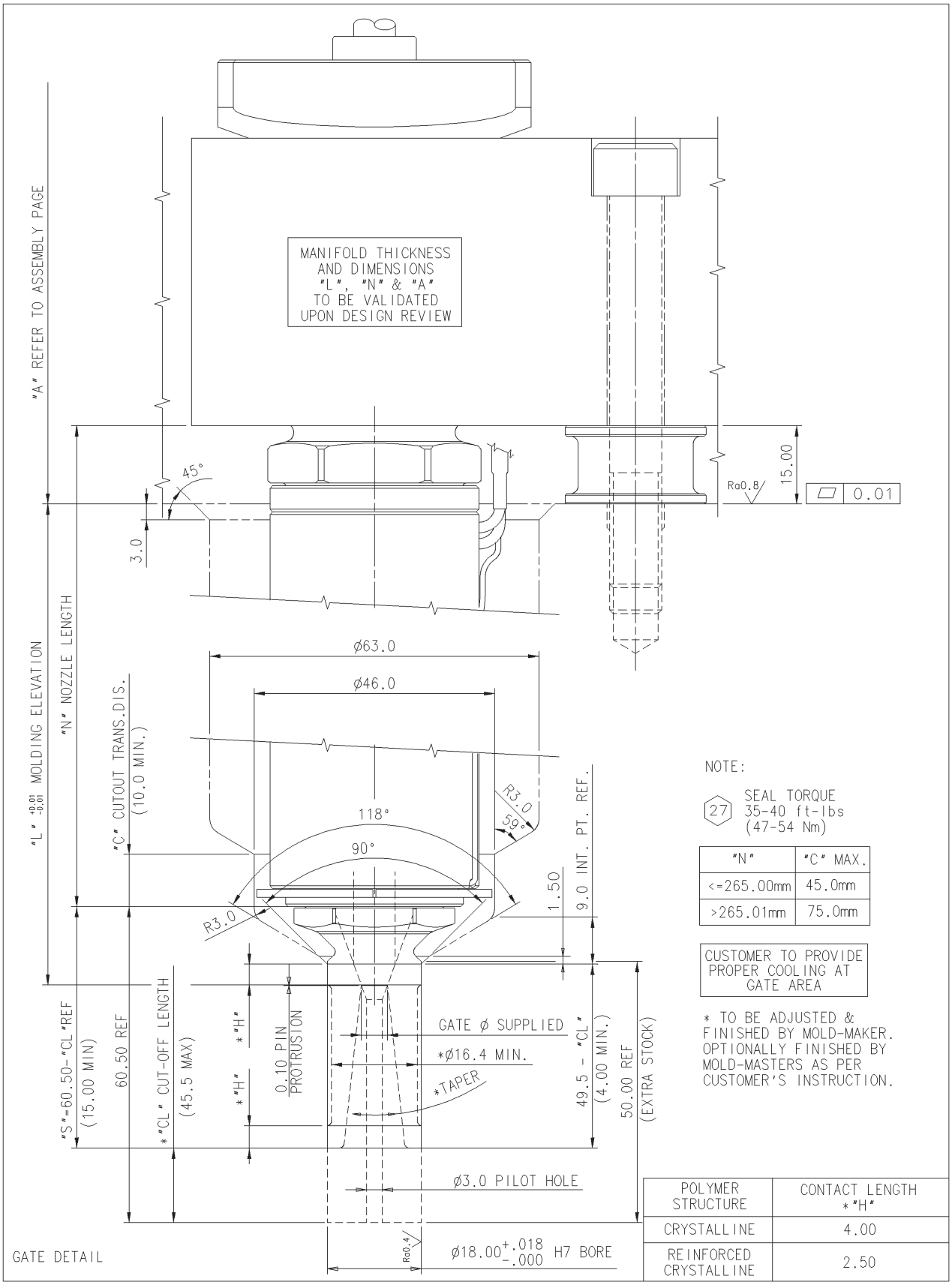

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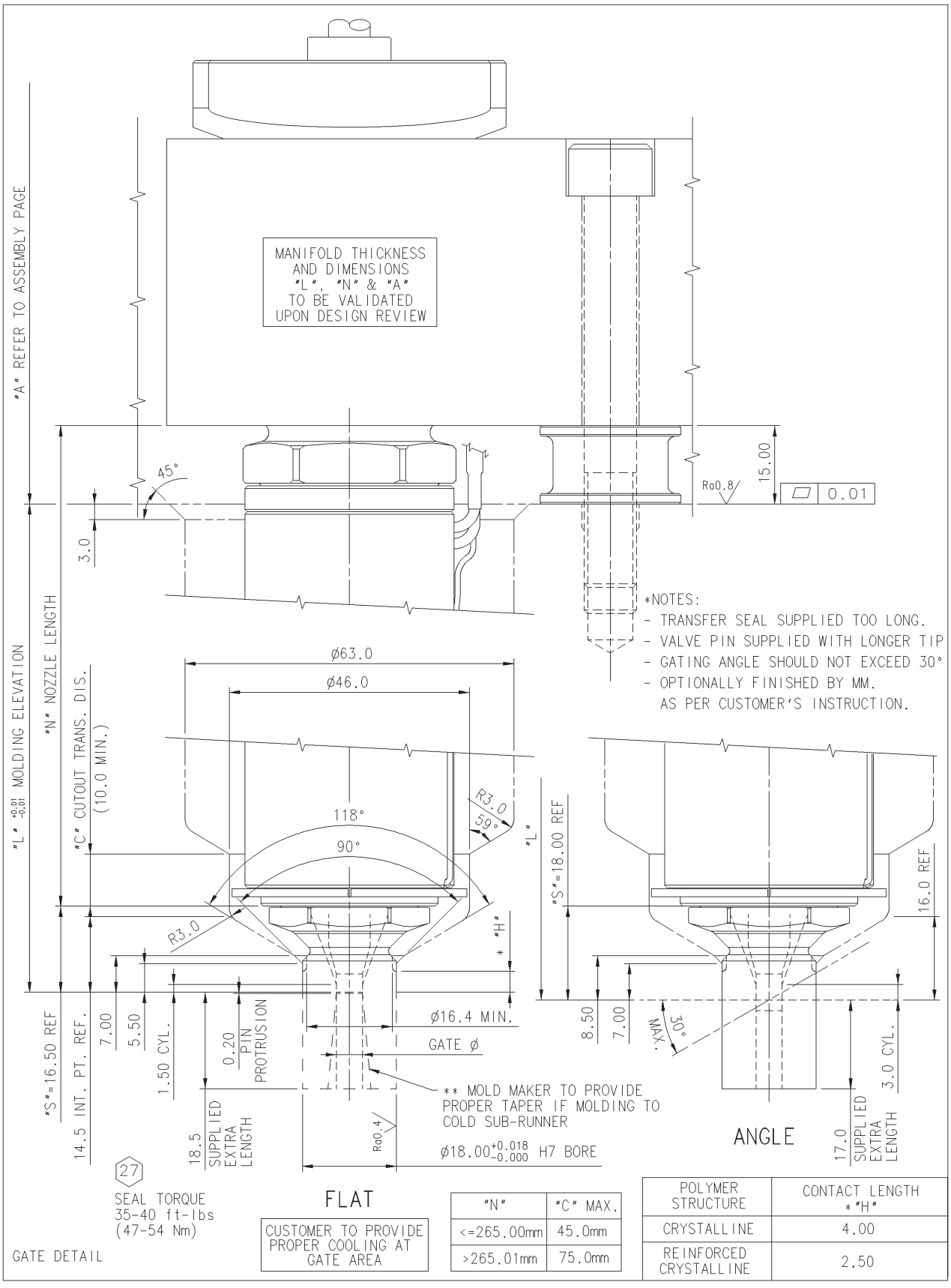

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CRYSTALLINE	4.00
REINFORCED CRYSTALLINE	2.50

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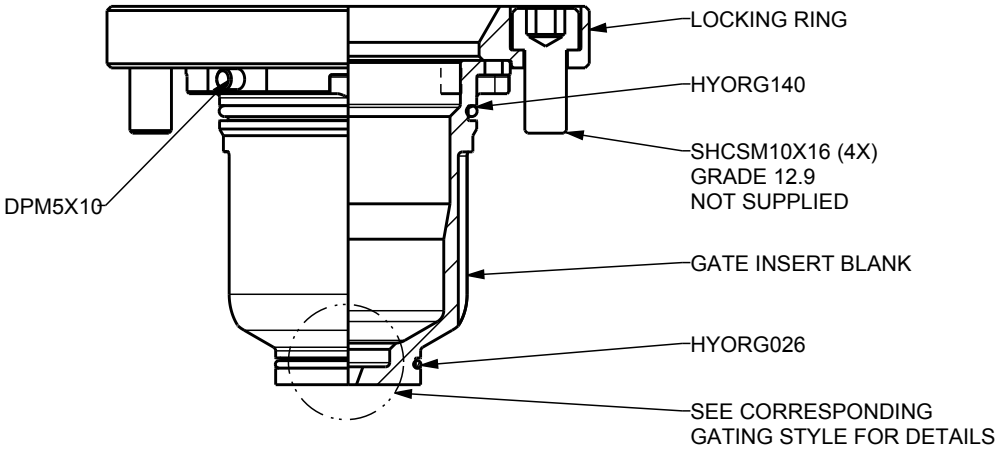
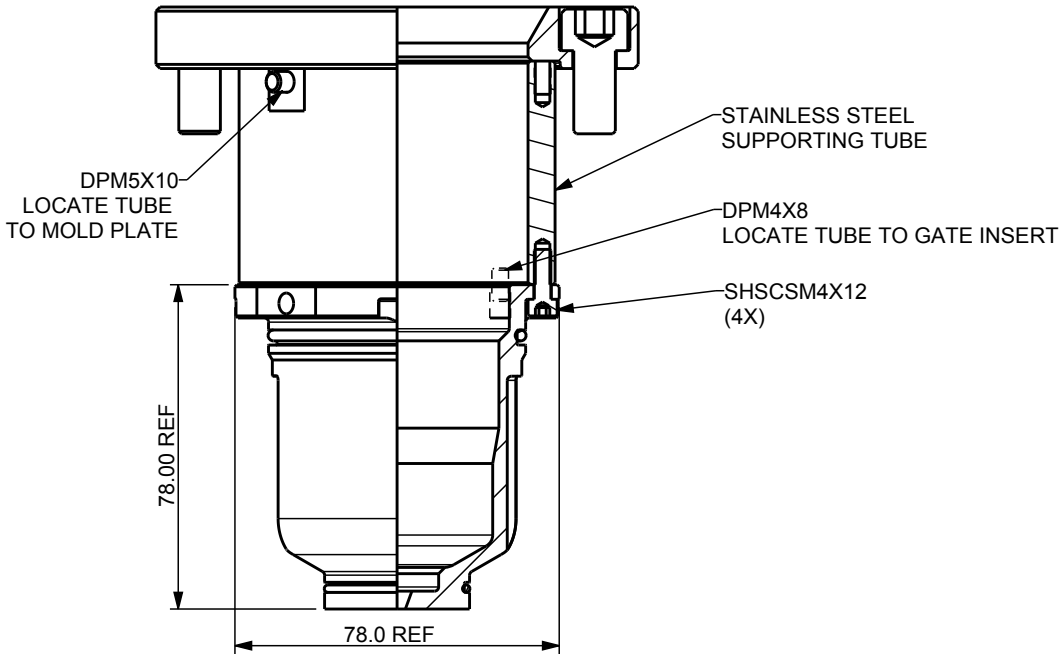
APPLICATIONS WITHOUT SUPPORTING TUBE



APPLICATIONS WITH SUPPORTING TUBE



WATER COOLED GATE INSERT OPTIONS		
GATE INSERT BLANK	E-TYPE TORPEDO	BI-METALLIC C-VALVE
	GIWFS6TEABLK01	GIWFS6BVABLK01
LOCKING RING	LOCKRING005	
STAINLESS STEEL TUBE RAW MATERIAL	SST304-76.0X6.5	

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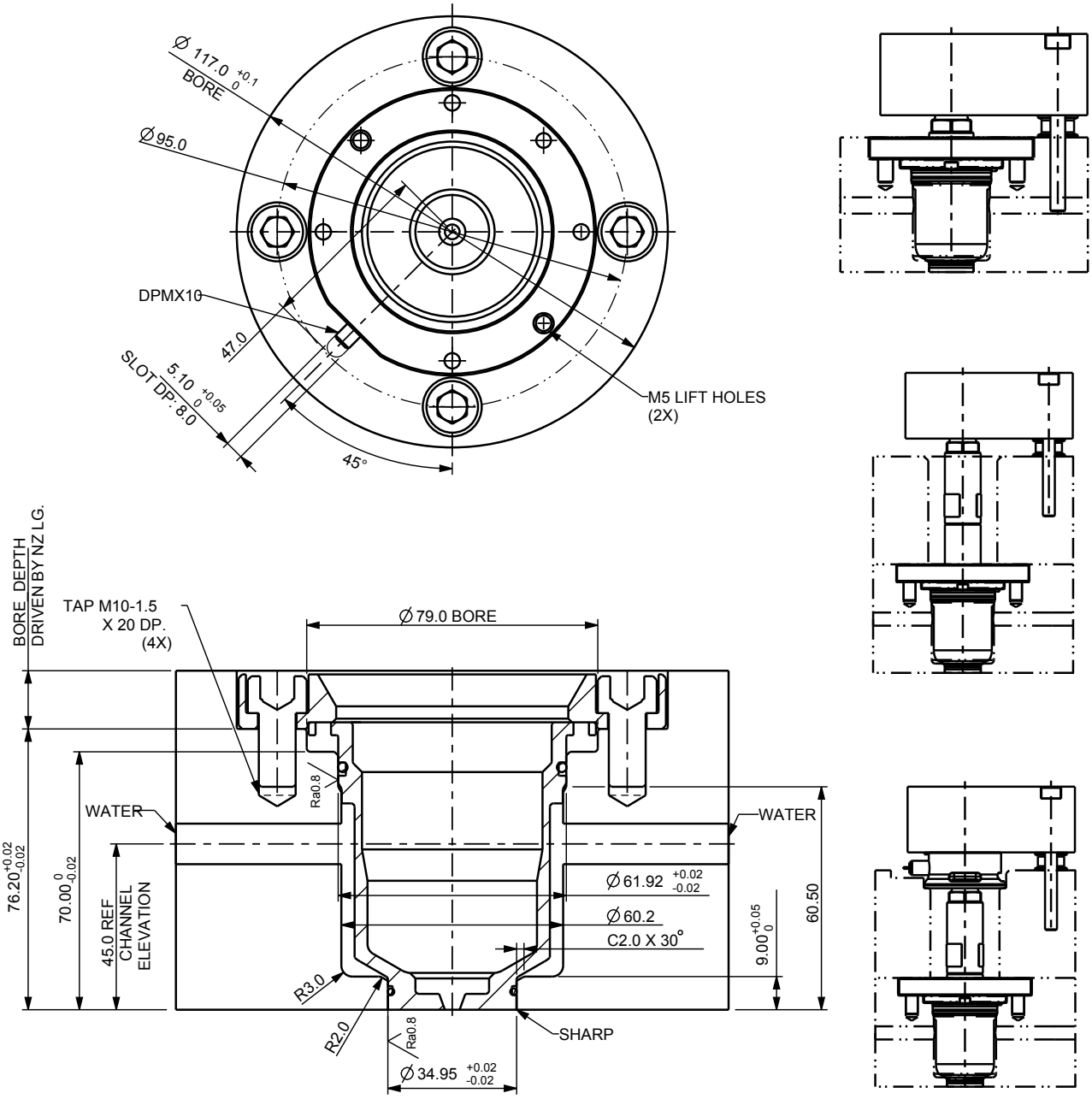
APPLICATIONS WITHOUT SUPPORTING TUBE



NOTE:
* NORMALLY USED FOR APPLICATIONS WITH SHORT NOZZLE LENGTH,
* FOR NOZZLE LENGTH SHORTER THAN 90.0mm, CONSIDER CUTTING SLOT ON LOCKING RING FOR WIRING EXIT,
* WATER CHANNEL ELEVATION COULD BE MOVED UP TO 50.0mm BY CHANGING THE LOCKING RING ORIENTATION.

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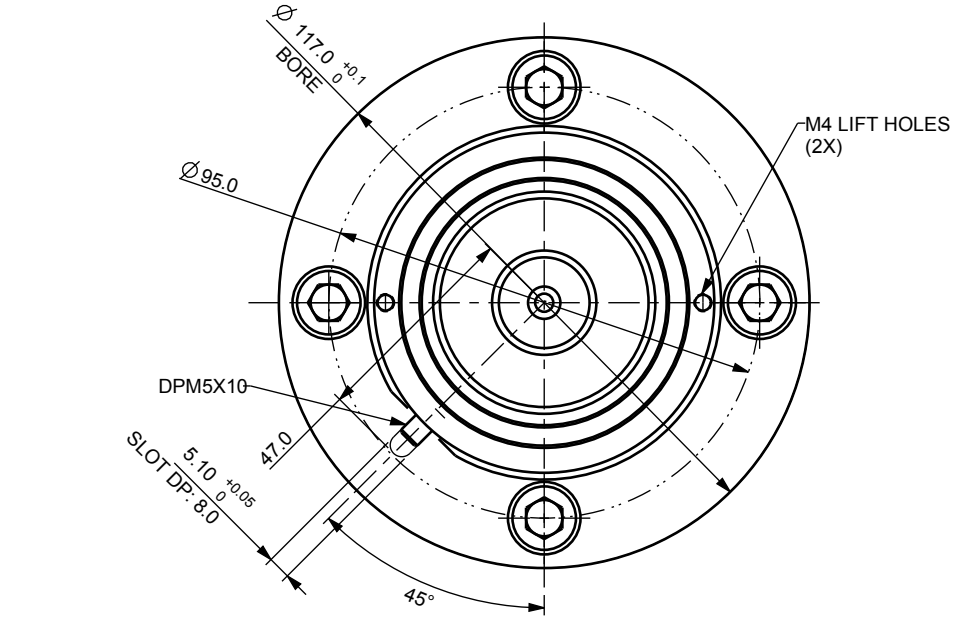
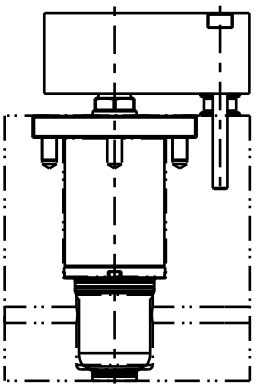
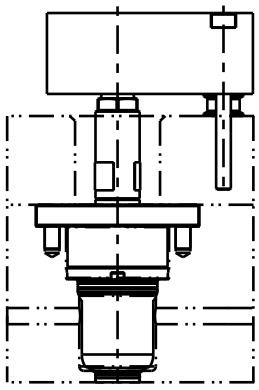
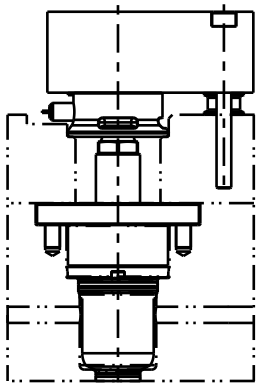
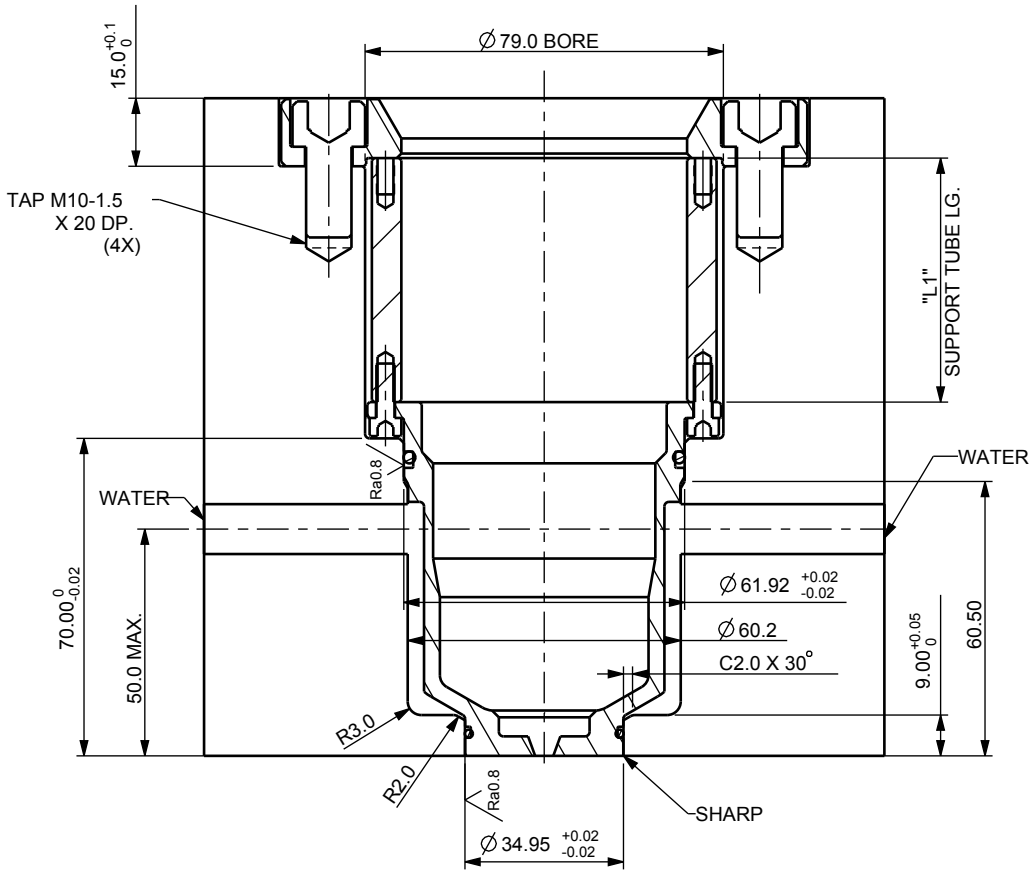
APPLICATIONS WITH SUPPORTING TUBE











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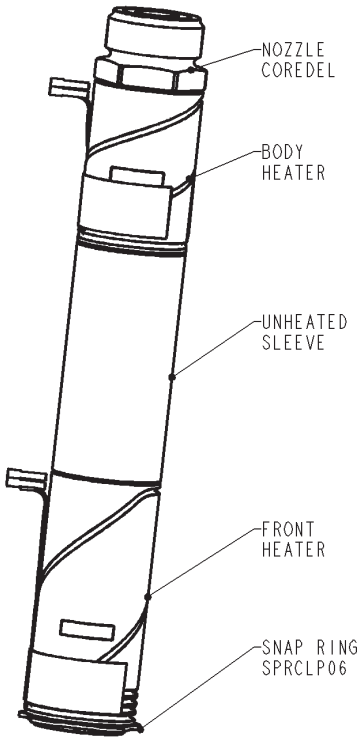

MODEL FOR REFERENCE ONLY

FRONT HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060FASM05	60.0	34.0	40.0	525W
HTRSLV090FASM05	90.0	34.0	40.0	525W

BODY HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060RASM05	60.0	34.0	40.0	300W
HTRSLVI20RASM05	I20.0	34.0	40.0	375W
HTRSLV240RASM05	240.0	34.0	40.0	600W

NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	BODY HEATER	UNHEATED SLEEVE	BODY HEATER	UNHEATED SLEEVE	FRONT HEATER
80.00-I10.00	N/A	N/A	N/A	5.0-35.0	HTRSLV060FASM05
I10.01-I40.00	N/A	N/A	N/A	5.0-35.0	HTRSLV090FASM05
I40.01-205.00	N/A	N/A	HTRSLV060RASM05	5.0-70.0	HTRSLV060FASM05
205.01-265.00	N/A	N/A	HTRSLVI20RASM05	I0.0-70.0	HTRSLV060FASM05
265.01-295.00	N/A	N/A	HTRSLVI20RASM05	40.0-70.0	HTRSLV090FASM05
295.01-330.00	N/A	5.0-35.0	HTRSLVI20RASM05	65.0-70.0	HTRSLV090FASM05
330.01-425.00	HTRSLV060RASM05	22.5-70.0	HTRSLVI20RASM05	22.5-70.0	HTRSLV090FASM05
425.01-485.00	HTRSLVI20RASM05	40.0-70.0	HTRSLVI20RASM05	40.0-70.0	HTRSLV090FASM05
485.01-605.00	HTRSLVI20RASM05	I0.0-70.0	HTRSLV240RASM05	I0.0-70.0	HTRSLV090FASM05
605.01-700.00	HTRSLV240RASM05	I0.0-57.5	HTRSLV240RASM05	I0.0-57.5	HTRSLV090FASM05

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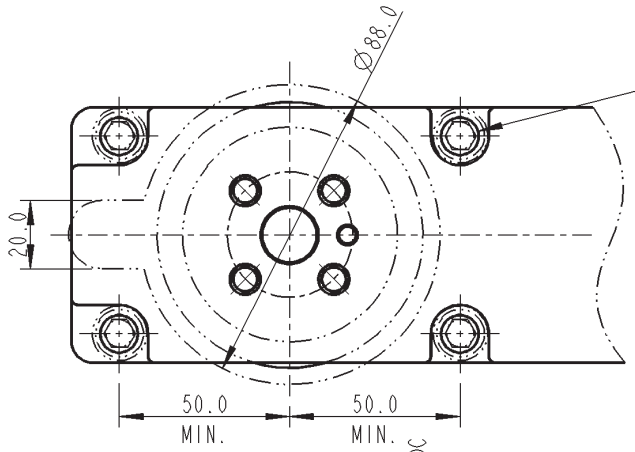
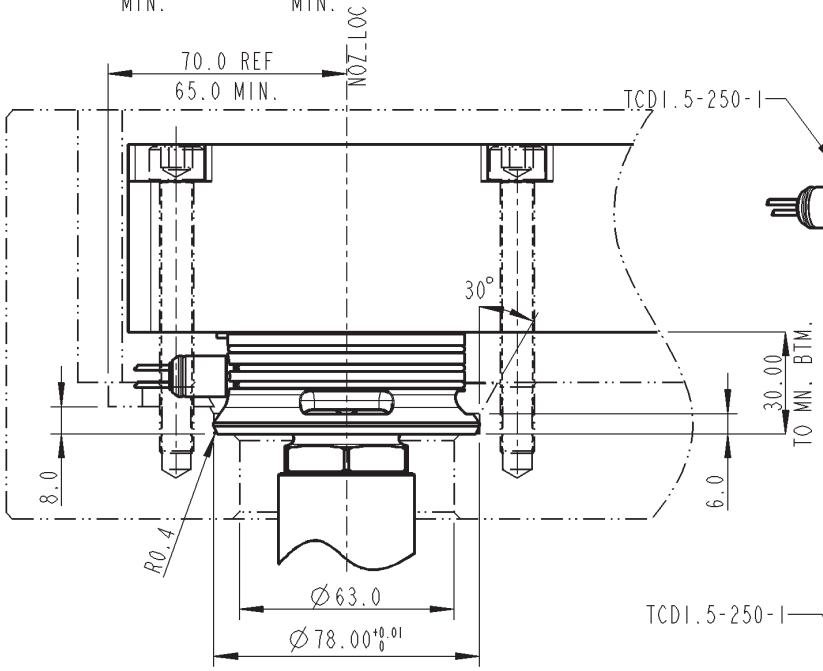
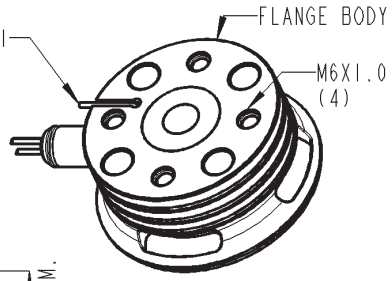


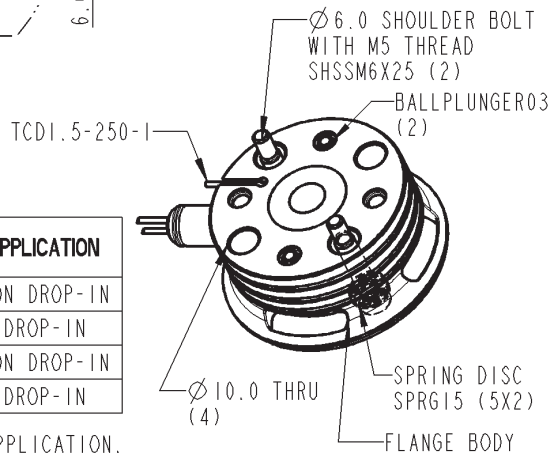
NOTE: 4X M10 or 3/8" SCREWS ARE HIGHLY RECOMMENDED TO BOLT MANIFOLD ONTO MOLD PLATE IN ORDER TO PROVIDE PROPER SEALING ON FLANGE CONTACT SURFACE.



NON DROP-IN VERSION



DROP-IN VERSION



FLANGE PACKAGE	FLANGE BODY	RUNNER DIA.	WATTAGE	APPLICATION
FLANGEFS11P	FLANGEFS11	Ø12.0	525W	NON DROP-IN
FLANGEFS11P1	FLANGEFS11	Ø12.0	525W	DROP-IN
FLANGEFS12P	FLANGEFS12	Ø16.0	525W	NON DROP-IN
FLANGEFS12P1	FLANGEFS12	Ø16.0	525W	DROP-IN

* CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR FLANGE APPLICATION.

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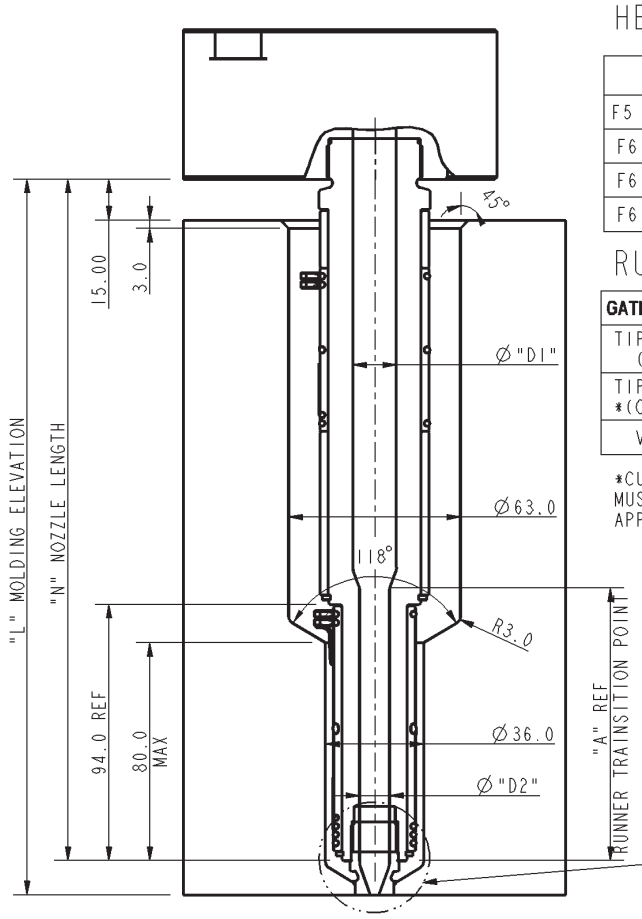


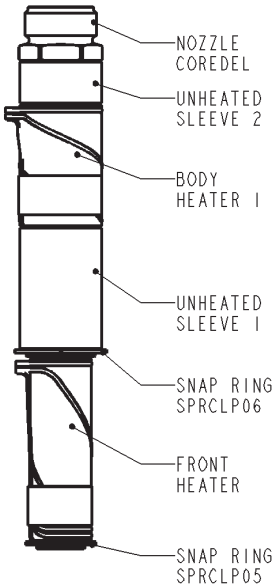
HEATER CONFIGURATION

CONFIG.	PART NUMBER	LENGTH	WATTAGE
F5 FRONT HEATER	HTRSLV090FASM04	90.0	525W
F6 BODY HEATER	HTRSLV060RASM05	60.0	300W
F6 BODY HEATER	HTRSLVI20RASM05	120.0	375W
F6 BODY HEATER	HTRSLV240RASM05	240.0	600W

RUNNER SIZE

GATING TYPE	Ø"D1"	Ø"D2"	"A"
TIP/SPRUE (STD)	12.00	8.00	22.0
TIP/SPRUE *(CUSTOM)	16.00	11.00	100.0
VALVE	16.00	11.00	100.0

*CUSTOM GATE SEAL REQUIRED. MUST BE REVIEWED BY MM APPLICATION ENGINEERING.



NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	UNHEATED SLEEVE 3	BODY HEATER	UNHEATED SLEEVE 2	BODY HEATER	UNHEATED SLEEVE 1	FRONT HEATER
189.00-229.00	N/A	N/A	N/A	HTRSLV060RASM05	20.0-60.0	HTRSLV090FASM04
229.01-264.00	N/A	N/A	5.0-35.0	HTRSLV060RASM05	55.0-60.0	HTRSLV090FASM04
264.01-289.00	N/A	N/A	N/A	HTRSLVI20RASM05	35.0-60.0	HTRSLV060FASM04
289.01-319.00	N/A	N/A	5.0-30.0	HTRSLVI20RASM05	55.0-60.0	HTRSLV090FASM04
319.01-349.00	N/A	HTRSLV060RASM05	45.0-60.0	HTRSLV060RASM05	45.0-60.0	HTRSLV090FASM04
349.01-409.00	N/A	HTRSLV060RASM05	30.0-60.0	HTRSLVI20RASM05	30.0-60.0	HTRSLV090FASM04
409.01-469.00	N/A	HTRSLVI20RASM05	30.0-60.0	HTRSLVI20RASM05	30.0-60.0	HTRSLV090FASM04
469.01-504.00	5.0-35.0	HTRSLVI20RASM05	57.5-60.0	HTRSLVI20RASM05	57.5-60.0	HTRSLV090FASM04
504.01-529.00	N/A	HTRSLV060RASM05	47.5-60.0	HTRSLV240RASM05	47.5-60.0	HTRSLV090FASM04
529.01-589.00	N/A	HTRSLVI20RASM05	30.0-60.0	HTRSLV240RASM05	30.0-60.0	HTRSLV090FASM04
589.01-624.00	5.0-35.0	HTRSLVI20RASM05	57.5-60.0	HTRSLV240RASM05	57.5-60.0	HTRSLV090FASM04
624.01-709.00	N/A	HTRSLV240RASM05	17.5-60.0	HTRSLV240RASM05	17.5-60.0	HTRSLV090FASM04

* REFERENCE ONLY, ALWAYS REFER TO SYSTEM DRAWINGS TO ORDER SPARE PARTS.

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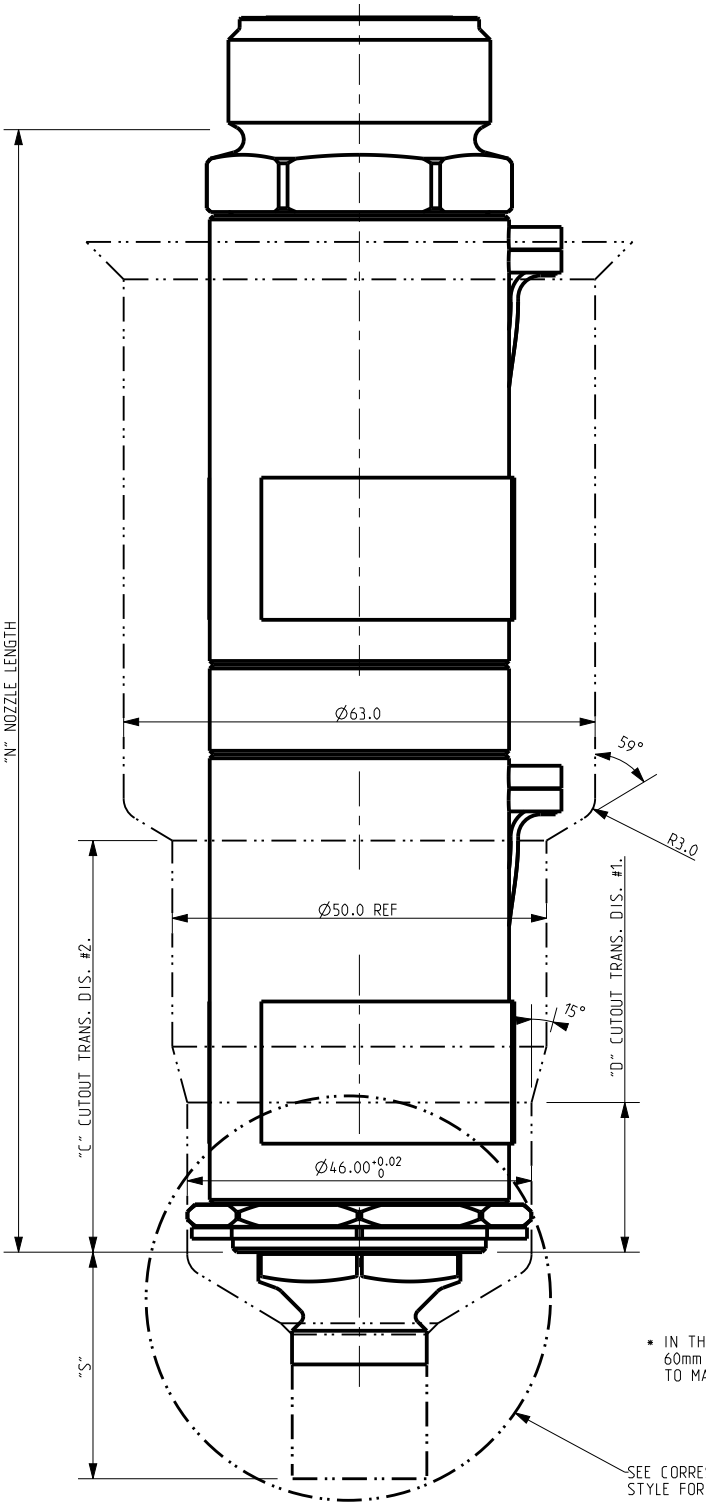
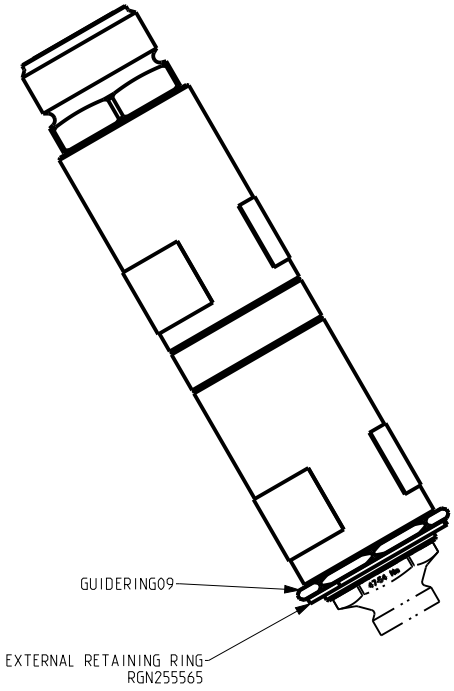
Centering Guide Ring (option)

06.01.085





NOTE:

"N"	"C" MAX.
<=265.0mm	55.0mm
> 265.01mm	75.0mm

GATING STYLE	"D"
NON EXT. STYLE	20.0mm
EXT. GATING STYLE	"S"-2 (mm)

* IN THE CASE THAT EXTENDED GATE SEAL WITH "S"> 48mm AND NOZZLE WITH 60mm LONG FRONT HEATER, NOZZLE BORE CUTOUT DESIGN SHOULD BE REVIEWED TO MAKE SURE NO INTERFERENCE BETWEEN HEATER TERMINAL AND NOZZLE BORE.

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Gate Seal Options

GATING STYLE	PAGE	NOZZLE LENGTH RANGE	GATE ∅	EXTRA STOCK (SUPPLIED LG.)	GATE SEAL OPTIONS	GATE SEAL PACKAGES
E-TYPE TORPEDO	07.01.017	80.0 - 1000.0	∅2.0-∅3.0	0.0	TSF059 + TPF007	TSF059P
F-TYPE TORPEDO	07.01.018	80.0 - 1000.0	∅2.50	0.25	TSF041 + TPF003	TSF041P FOR PROCESSING TEMP.>280°C
					TSF041 + TPF003-1	TSF041P1 FOR PROCESSING TEMP.<280°C
			∅3.00	0.25	TSF042 + TPF003	TSF042P FOR PROCESSING TEMP.>280°C
					TSF042 + TPF003-1	TSF042P1 FOR PROCESSING TEMP.<280°C
			∅3.50	0.25	TSF043 + TPF003	TSF043P FOR PROCESSING TEMP.>280°C
					TSF043 + TPF003-1	TSF043P1 FOR PROCESSING TEMP.<280°C
EXTENDED F-TYPE TORPEDO	07.01.019	80.0 - 1000.0	∅2.50	50.0	TSF044 + TPF003	TSF044P FOR PROCESSING TEMP.>280°C
					TSF044 + TPF003-1	TSF044P1 FOR PROCESSING TEMP.<280°C
			∅3.00	50.0	TSF045 + TPF003	TSF045P FOR PROCESSING TEMP.>280°C
					TSF045 + TPF003-1	TSF045P1 FOR PROCESSING TEMP.<280°C
			∅3.50	50.0	TSF046 + TPF003	TSF046P FOR PROCESSING TEMP.>280°C
					TSF046 + TPF003-1	TSF046P1 FOR PROCESSING TEMP.<280°C
BI-METALLIC C-SPRUE	07.01.020	80.0 - 1000.0	∅4.00	N/A	TSF028 + TSLF0002	TSF028P
			∅5.00	N/A	TSF028 + TSLF0003	TSF028P1
			∅6.00	N/A	TSF028 + TSLF0004	TSF028P2
EXTENDED HOT SPRUE	07.01.030	80.0 - 1000.0	∅3.0-∅6.0	50.0	TSF029 (∅2.0 HOLE SUPPLIED)	N/A
BI-METALLIC C-VALVE	07.01.040	80.0 - 1000.0	∅5.0-∅6.0	N/A	TSF063 + TSLF0001	TSF063P
BI-MET. BALLNOSE C-VALVE	07.01.045	80.0 - 1000.0	∅4.5-∅6.5	N/A	TS010028+TSL010011	TS010028P2
HOT VALVE	07.01.050	80.0 - 1000.0	∅5.00	0.25	TSF026	N/A
			∅6.00	0.25	TSF027	
EXTENDED HOT VALVE	07.01.051	80.0 - 1000.0	∅5.00	50.0	TSF054	
			∅6.00	50.0	TSF055	

NOTE:
* FINISHED GATE SEALS ("F") ARE AVAILABLE FOR F-TYPE, EXT. F-TYPE, HOT SPRUE, EXT. HOT SPRUE, HOT VALVE, EXT. HOT VALVE CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR DETAIL
* CUSTOM SEALS CAN BE MANUFACTURED WITH APPLICATION ENGINEER APPROVAL
* SEE PG.02.01.060 FOR TYPICAL TORQUE VALUES

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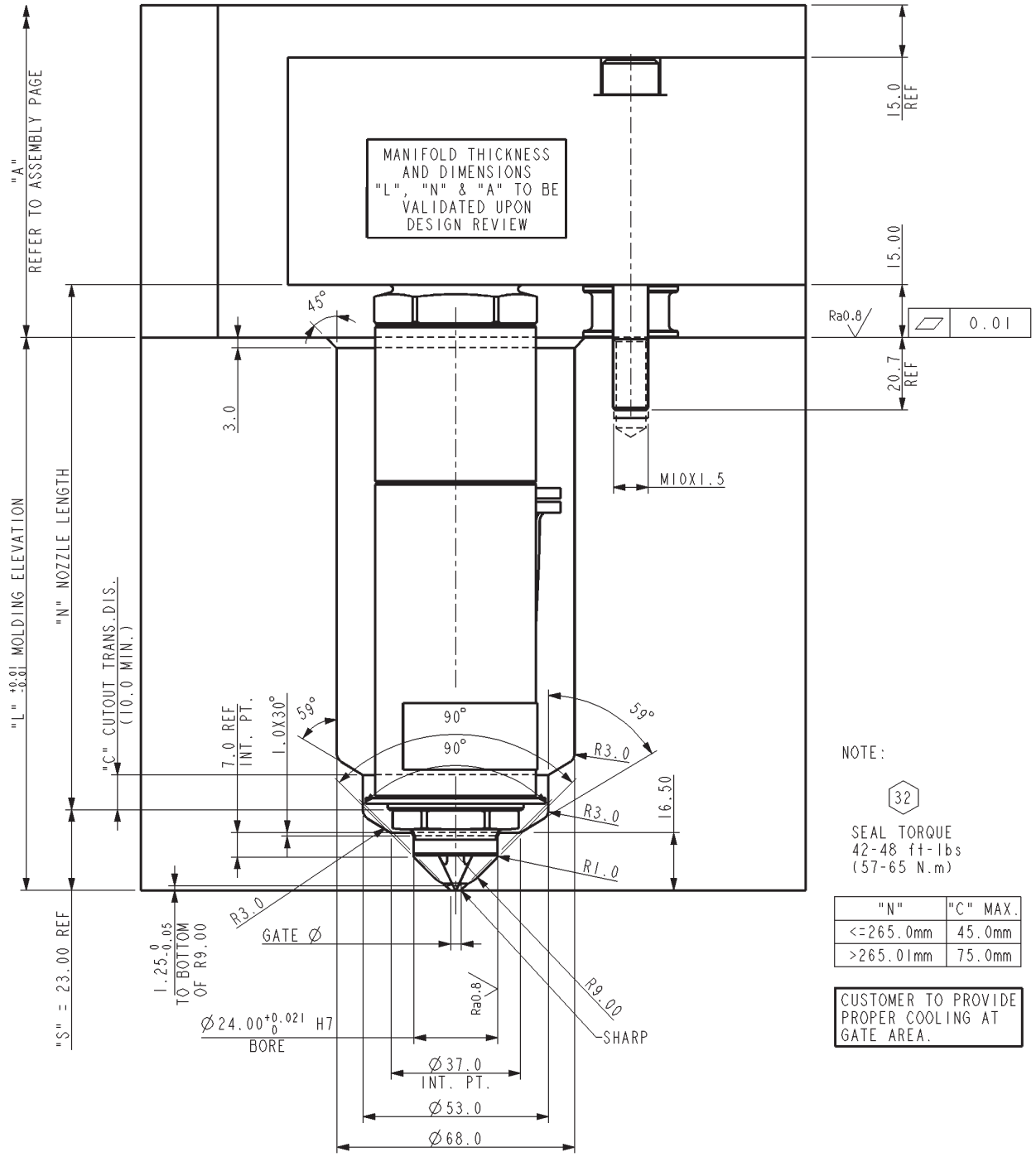

NOTE:

(32) SEAL TORQUE 42-48 ft-lbs (57-65 N.m)

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA.

GATE DETAIL

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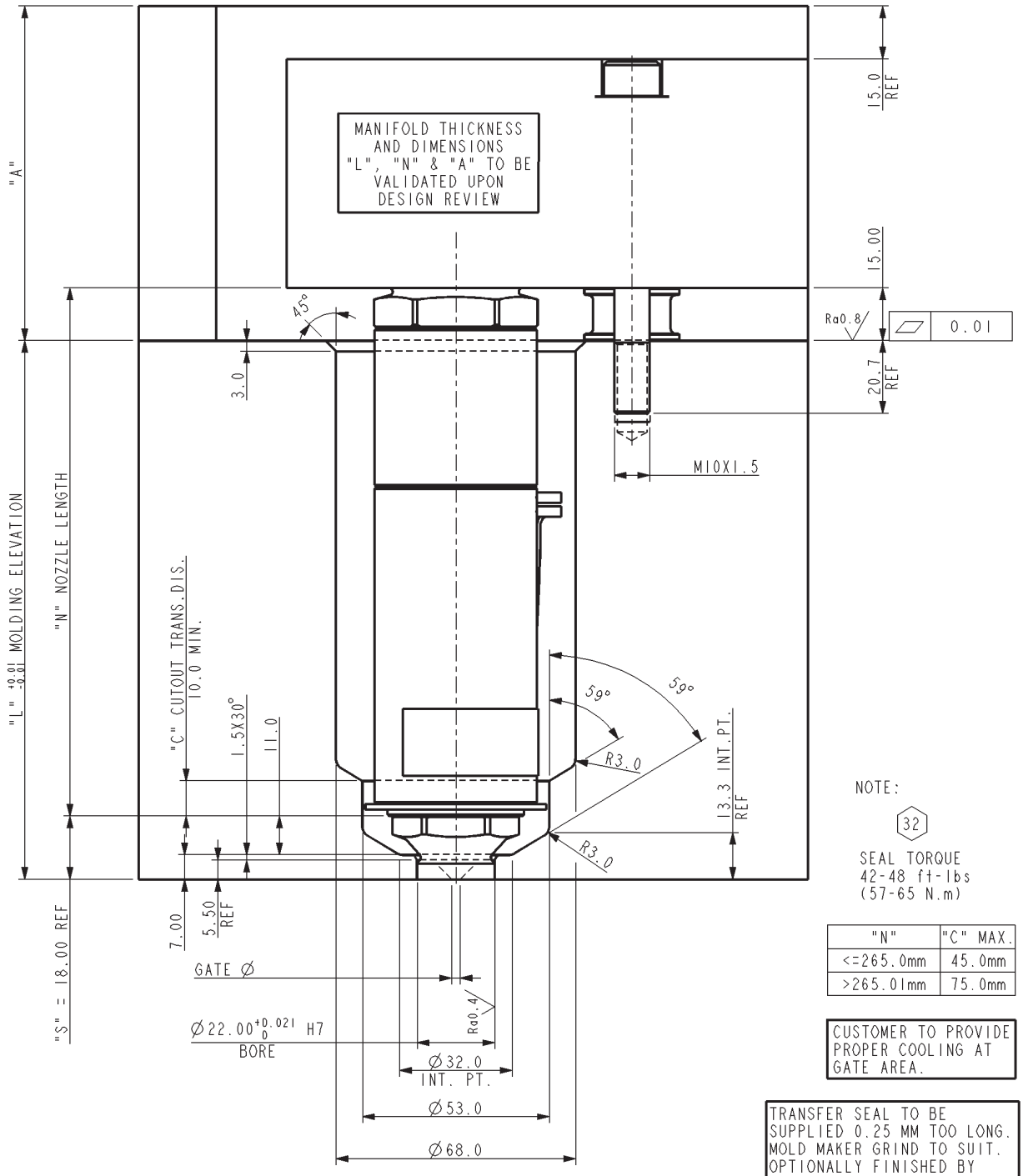

NOTE:

32

SEAL TORQUE
42-48 ft-lbs
(57-65 N.m)

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA.

TRANSFER SEAL TO BE SUPPLIED 0.25 MM TOO LONG. MOLD MAKER GRIND TO SUIT. OPTIONALLY FINISHED BY MOLD-MASTERS AS PER CUSTOMER'S INSTRUCTION.

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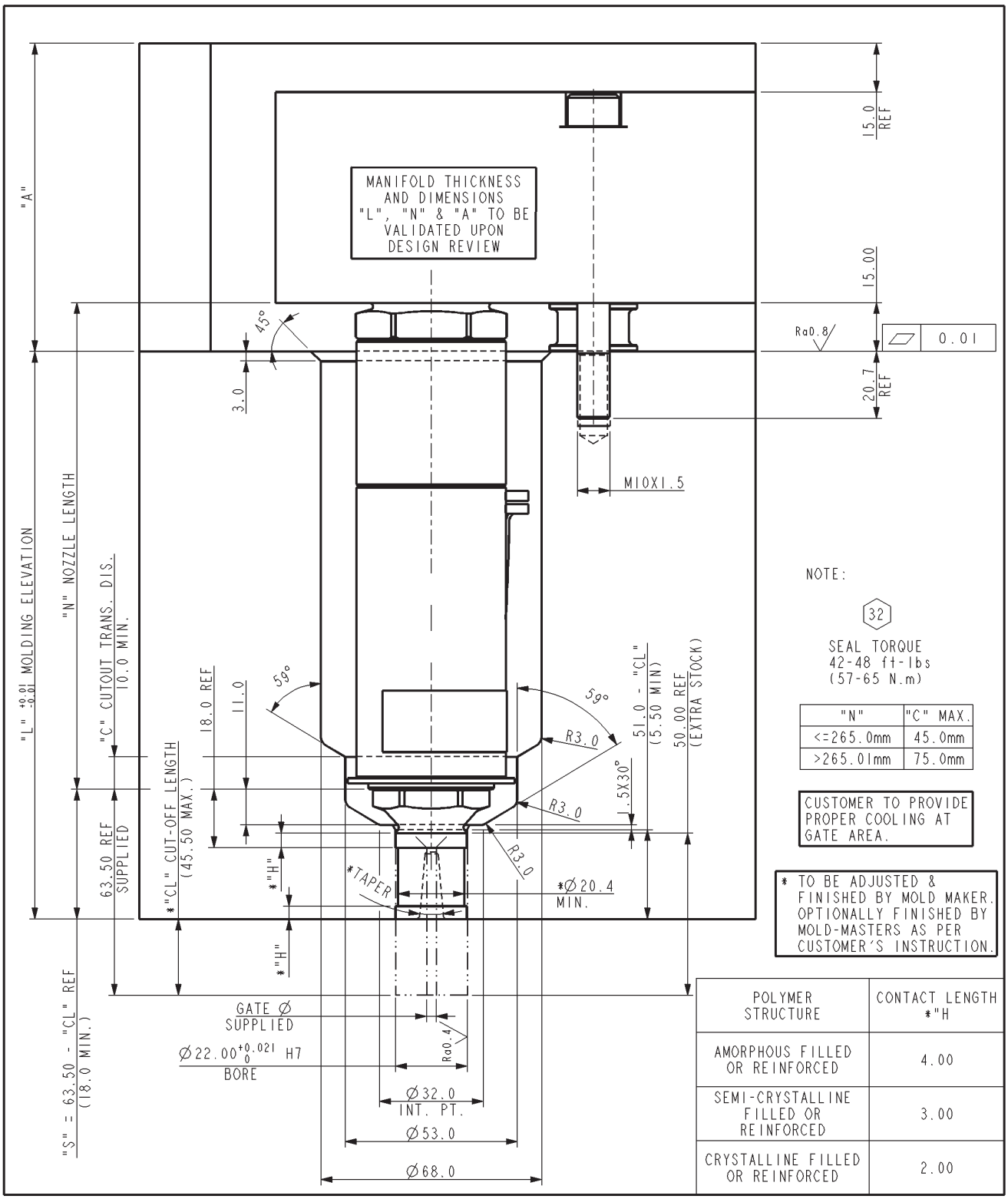

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

POLYMER STRUCTURE	CONTACT LENGTH *"H
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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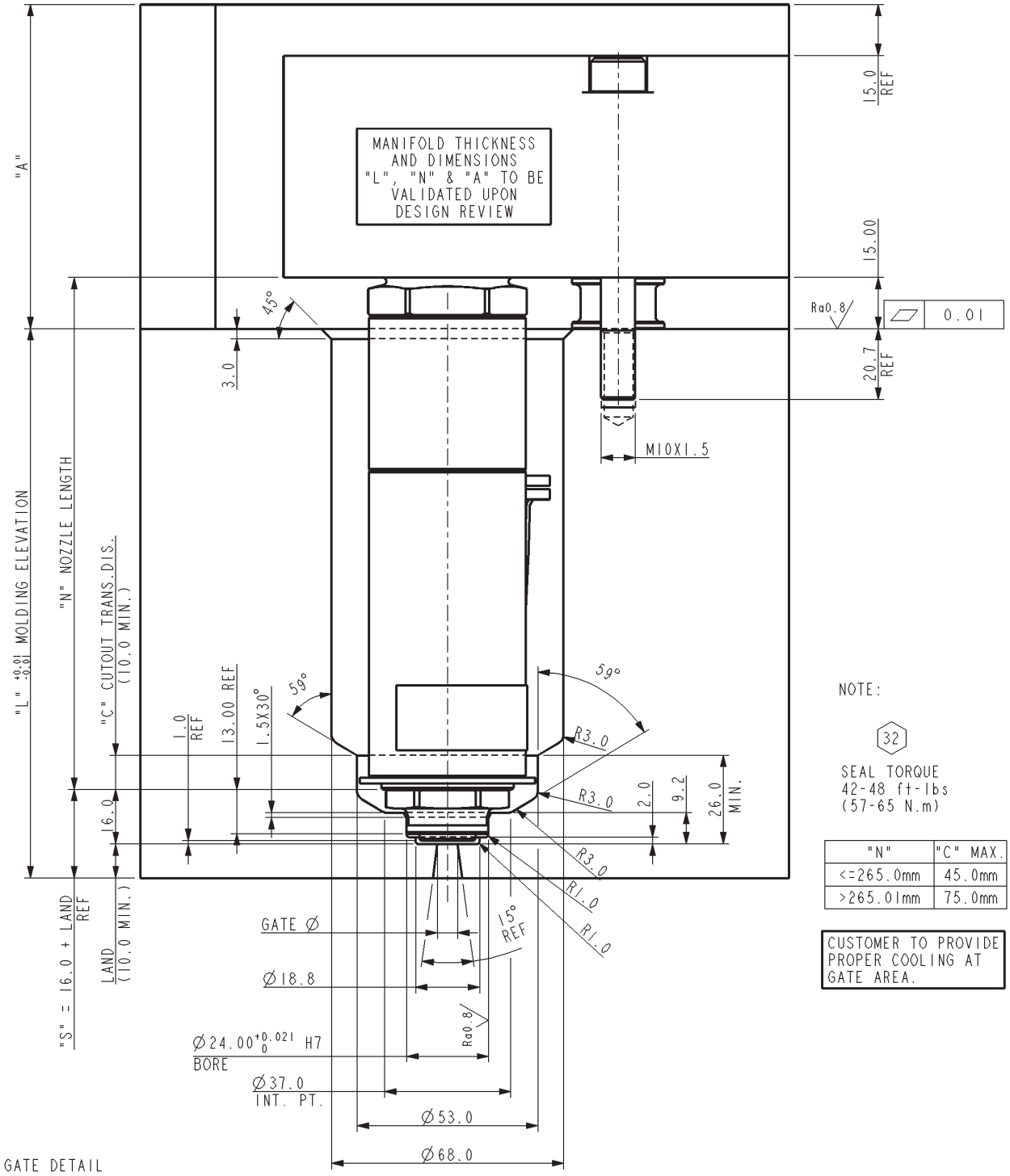

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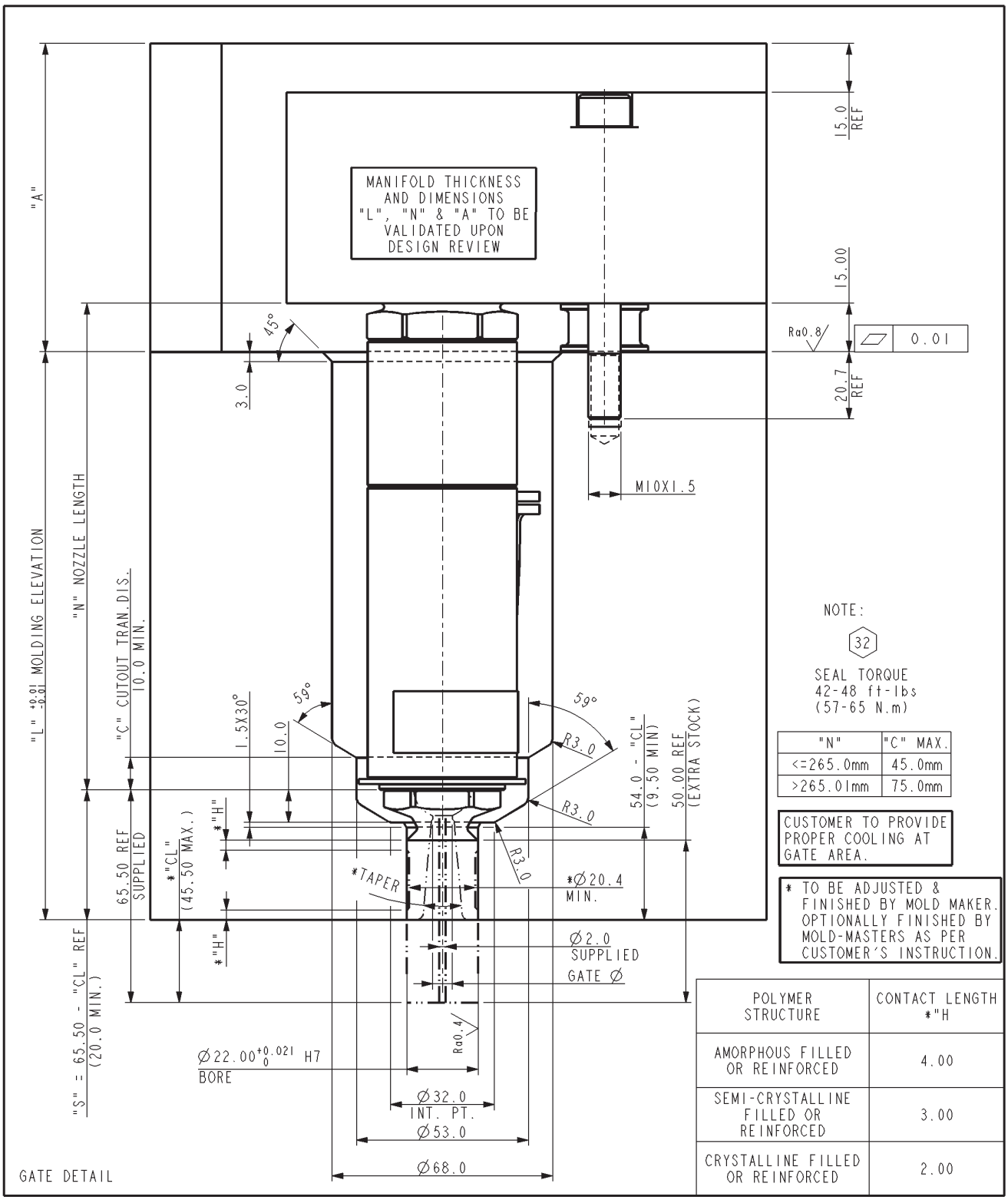

NOTE:

32

SEAL TORQUE
42-48 ft-lbs
(57-65 N.m)

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA.

* TO BE ADJUSTED & FINISHED BY MOLD MAKER. OPTIONALLY FINISHED BY MOLD-MASTERS AS PER CUSTOMER'S INSTRUCTION.

POLYMER STRUCTURE	CONTACT LENGTH *"H
AMORPHOUS FILLED OR REINFORCED	4.00
SEMI-CRYSTALLINE FILLED OR REINFORCED	3.00
CRYSTALLINE FILLED OR REINFORCED	2.00

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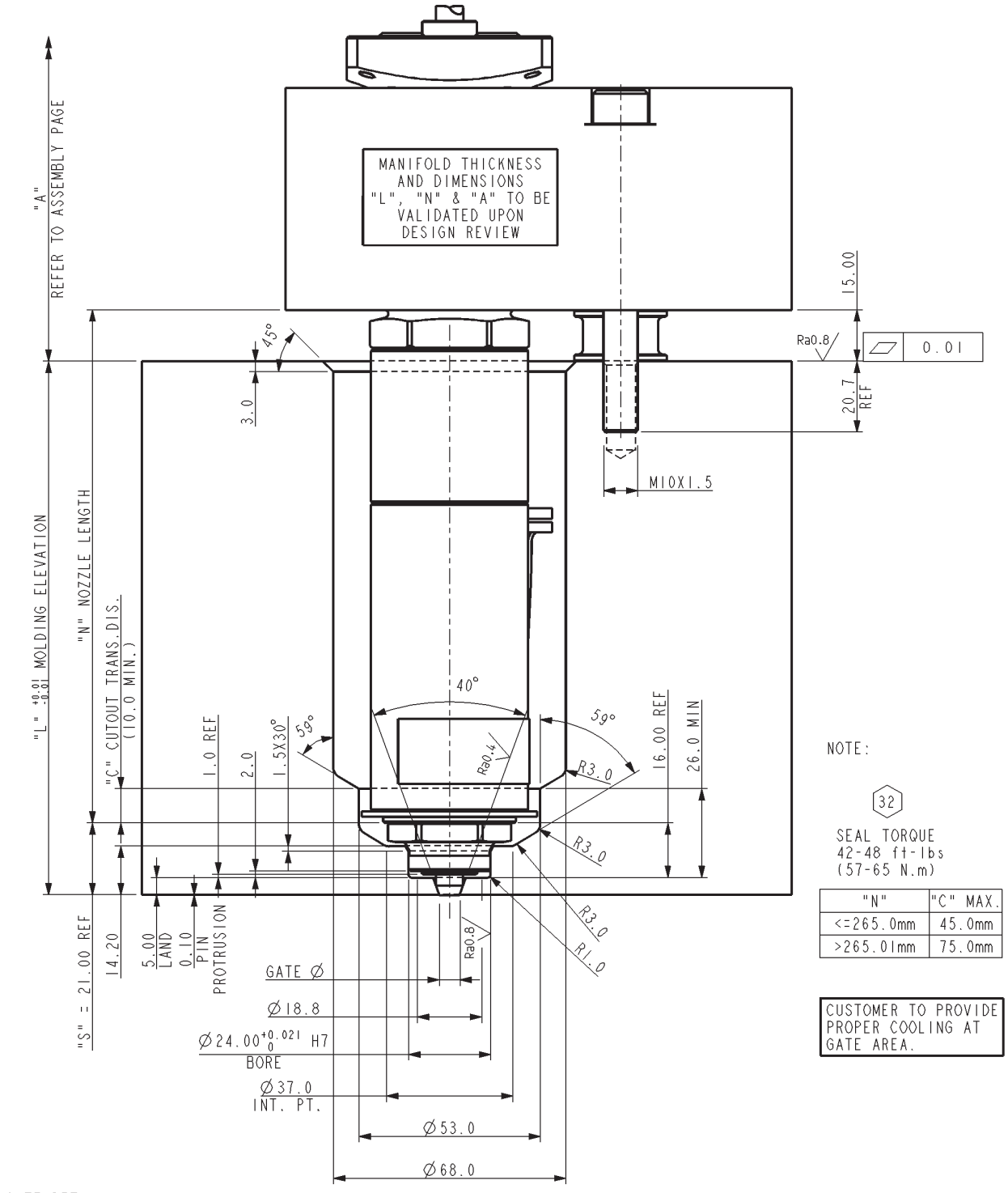

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

GATE DETAIL

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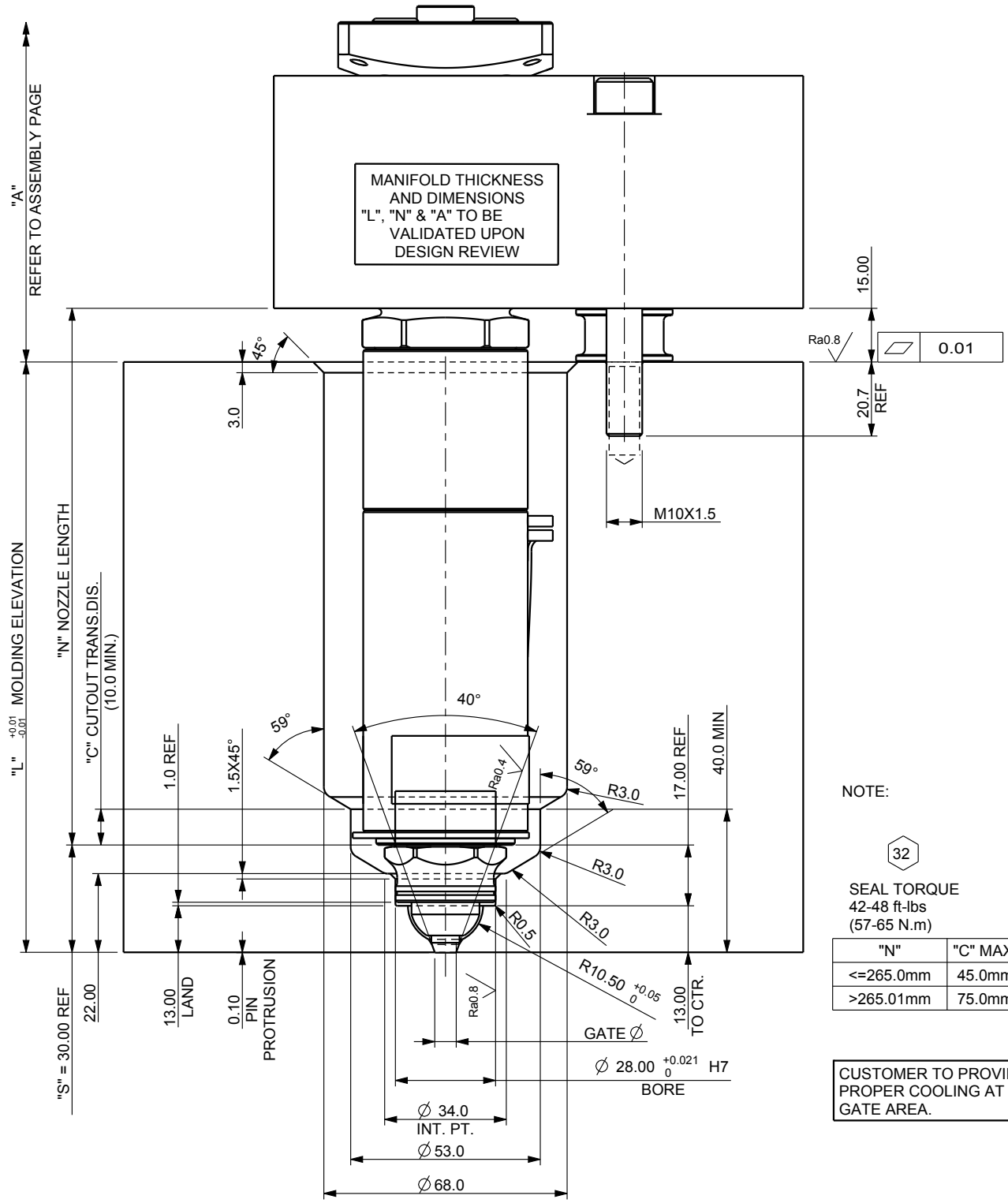

NOTE:

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SEAL TORQUE
42-48 ft-lbs
(57-65 N.m)

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

CUSTOMER TO PROVIDE PROPER COOLING AT GATE AREA.

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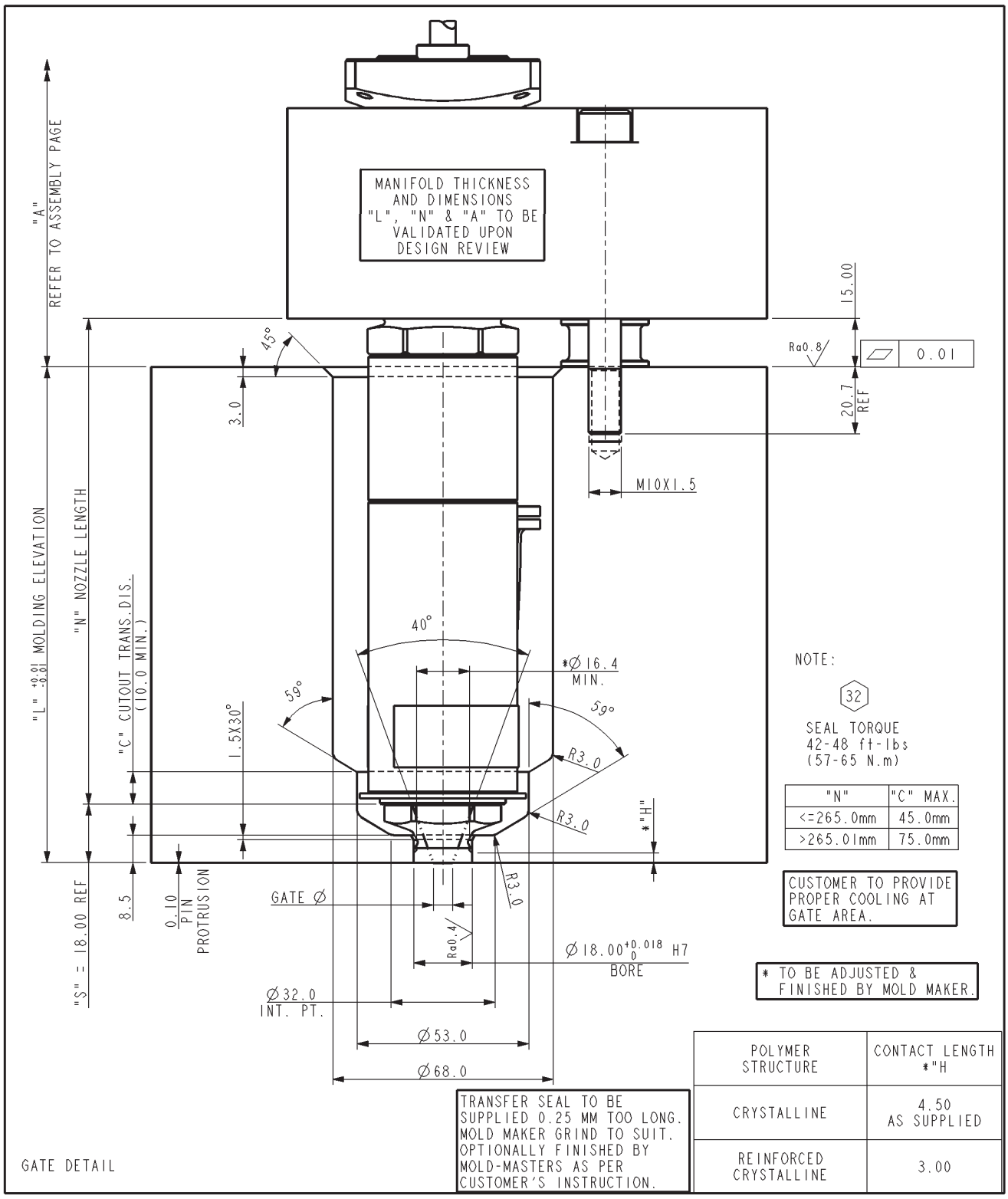

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

POLYMER STRUCTURE	CONTACT LENGTH *"H
CRYSTALLINE	4.50 AS SUPPLIED
REINFORCED CRYSTALLINE	3.00

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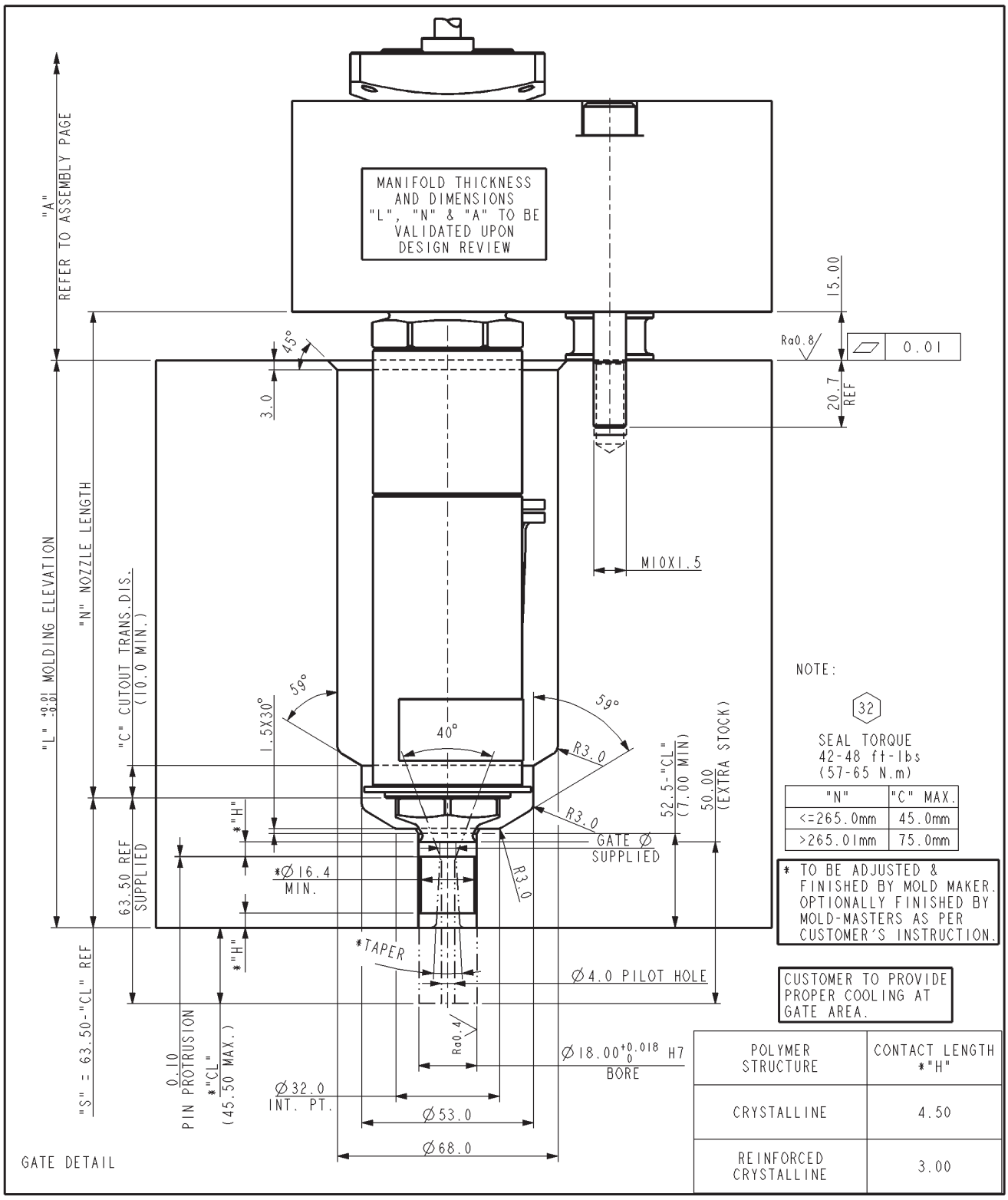

"N"	"C" MAX.
<=265.0mm	45.0mm
>265.01mm	75.0mm

POLYMER STRUCTURE	CONTACT LENGTH *"H"
CRYSTALLINE	4.50
REINFORCED CRYSTALLINE	3.00

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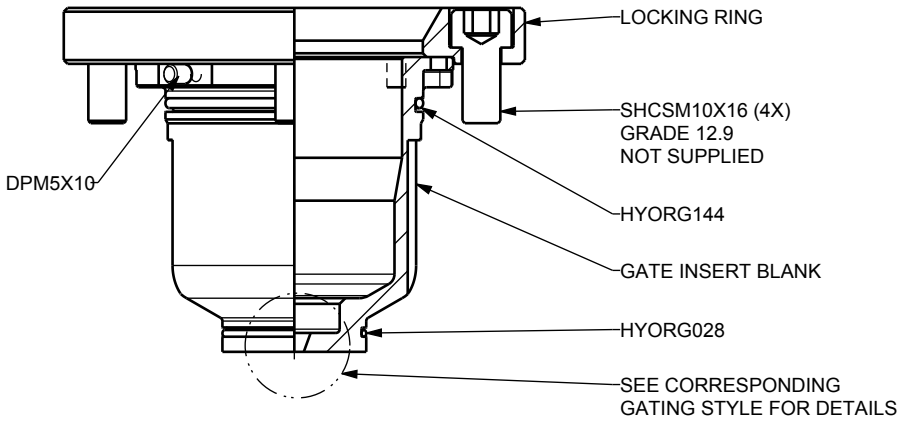
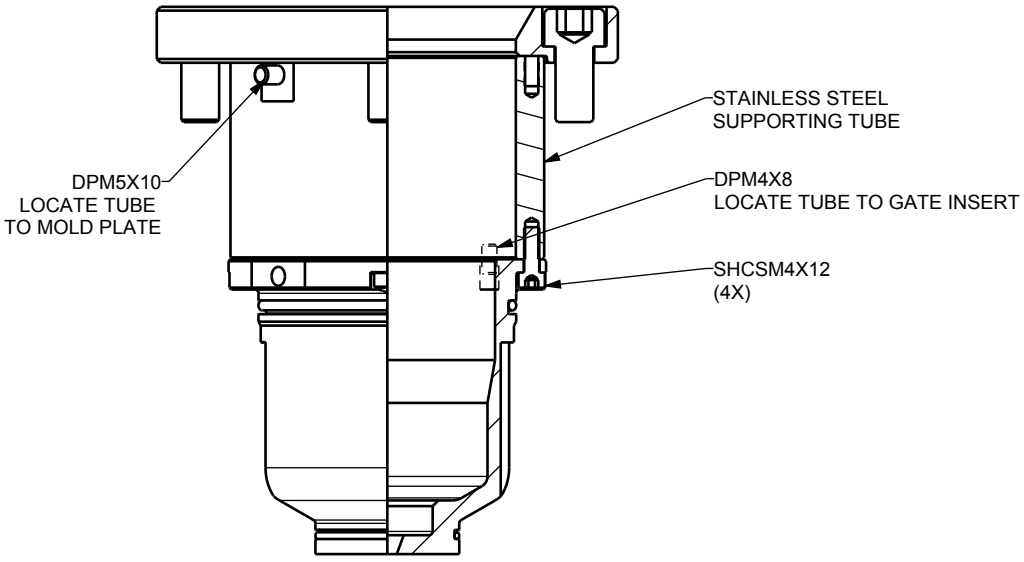
APPLICATIONS WITHOUT SUPPORTING TUBE



APPLICATIONS WITH SUPPORTING TUBE



WATER COOLED GATE INSERT OPTIONS		
GATE INSERT BLANK	E-TYPE TORPEDO	BI-METALLIC C-VALVE
	GIWFS7TEABLK01	GIWFS7BVABLK01
LOCKING RING	LOCKRING006	
STAINLESS STEEL TUBE RAW MATERIAL	SST304-83.0X7.5	

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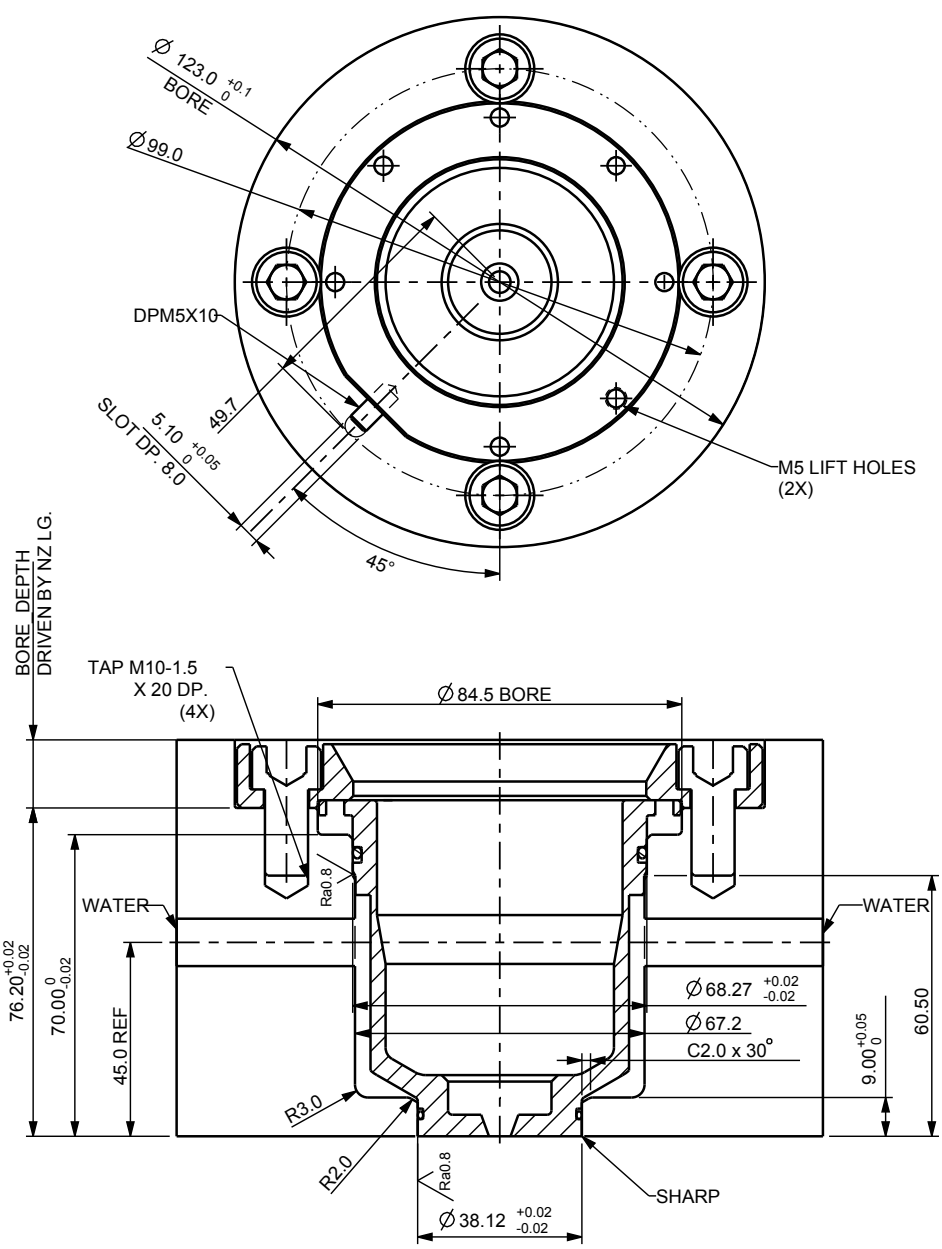
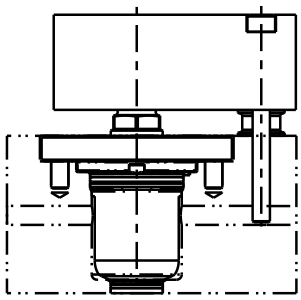
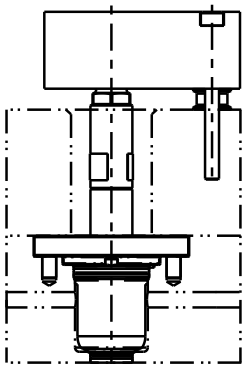
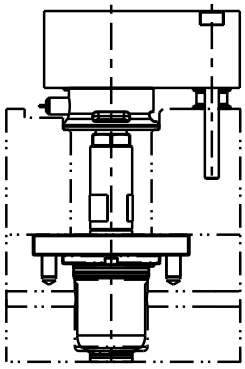
APPLICATIONS WITHOUT SUPPORTING TUBE









NOTE:
* NORMALLY USED FOR APPLICATIONS WITH SHORT NOZZLE LENGTH,
* FOR NOZZLE LENGTH SHORTER THAN 90.0mm, CONSIDER CUTTING SLOT ON LOCKING RING FOR WIRING EXIT,
* WATER CHANNEL ELEVATION COULD BE MOVED UP TO 50.0mm BY CHANGING THE LOCKING RING ORIENTATION.

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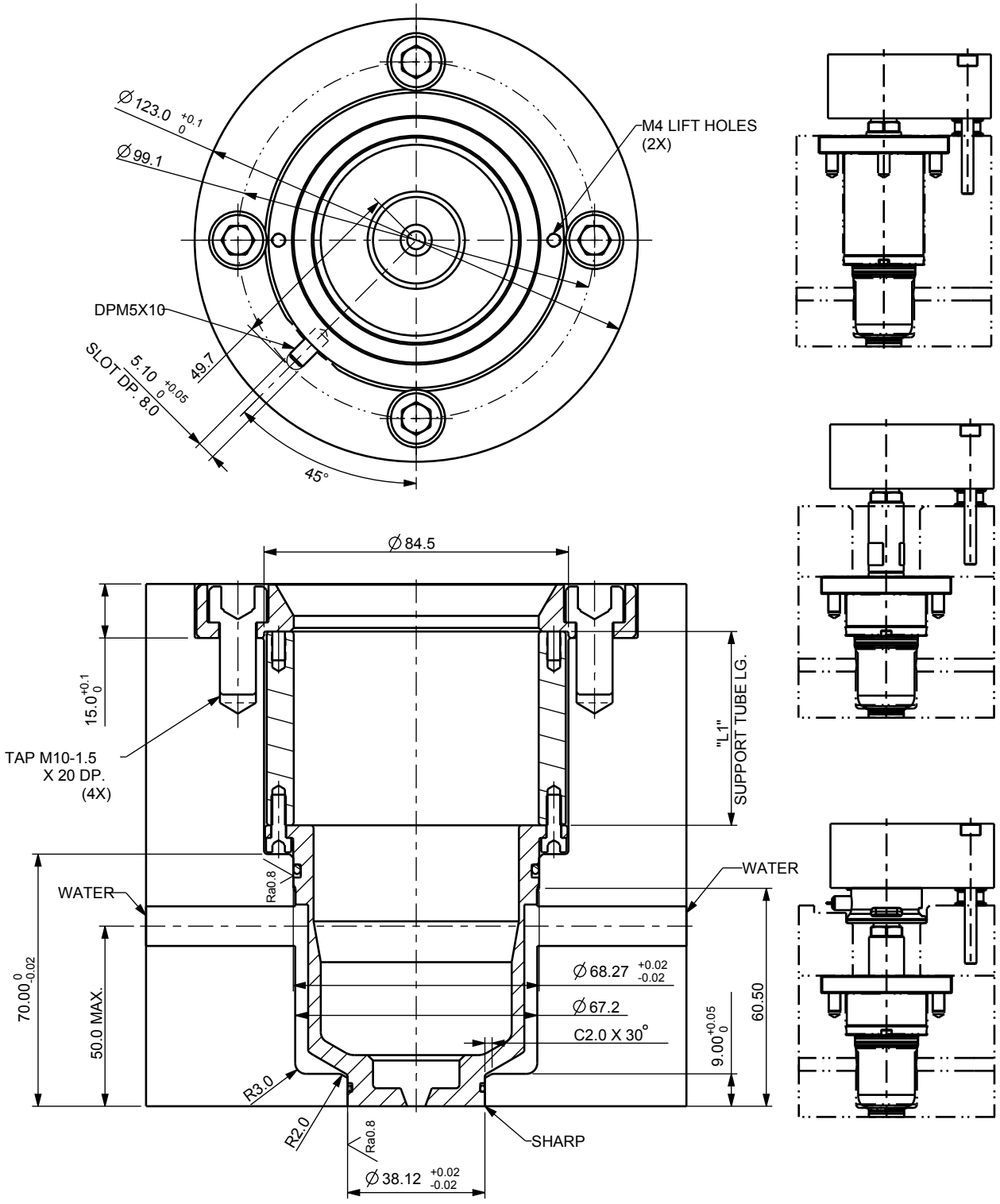
APPLICATIONS WITH SUPPORTING TUBE



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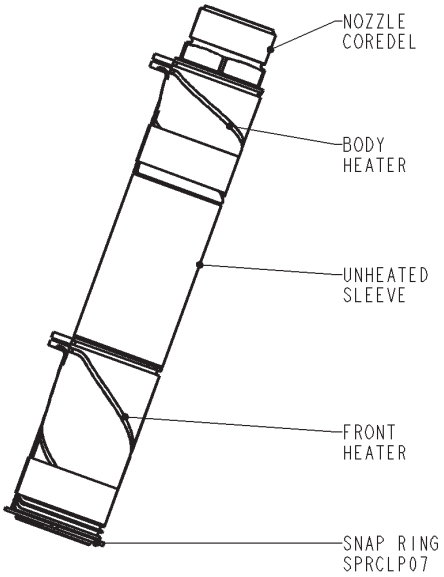

FRONT HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060FASM06	60.0	39.0	46.0	850W
HTRSLV090FASM06	90.0	39.0	46.0	950W

BODY HEATER

PART	LENGTH	ID	OD	WATTAGE
HTRSLV060RASM06	60.0	39.0	46.0	700W
HTRSLV120RASM06	120.0	39.0	46.0	750W
HTRSLV240RASM06	240.0	39.0	46.0	950W

MODEL FOR REFERENCE ONLY

NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	BODY HEATER	UNHEATED SLEEVE	BODY HEATER	UNHEATED SLEEVE	BODY HEATER	UNHEATED SLEEVE	FRONT HEATER
80.00-110.00	N/A	N/A	N/A	N/A	N/A	5.0-35.0	HTRSLV060FASM06
110.01-140.00	N/A	N/A	N/A	N/A	N/A	5.0-35.0	HTRSLV090FASM06
140.01-205.00	N/A	N/A	N/A	N/A	HTRSLV060RASM06	5.0-70.0	HTRSLV060FASM06
205.01-265.00	N/A	N/A	N/A	N/A	HTRSLV120RASM06	10.0-70.0	HTRSLV060FASM06
265.01-295.00	N/A	N/A	N/A	N/A	HTRSLV120RASM06	40.0-70.0	HTRSLV090FASM06
295.01-330.00	N/A	N/A	N/A	5.0-35.0	HTRSLV120RASM06	65.0-70.0	HTRSLV090FASM06
330.01-425.00	N/A	N/A	HTRSLV060RASM06	22.5-70.0	HTRSLV120RASM06	22.5-70.0	HTRSLV090FASM06
425.01-485.00	N/A	N/A	HTRSLV120RASM06	40.0-70.0	HTRSLV120RASM06	40.0-70.0	HTRSLV090FASM06
485.01-605.00	N/A	N/A	HTRSLV120RASM06	10.0-70.0	HTRSLV240RASM06	10.0-70.0	HTRSLV090FASM06
605.01-725.00	N/A	N/A	HTRSLV240RASM06	10.0-70.0	HTRSLV240RASM06	10.0-70.0	HTRSLV090FASM06
725.01-760.00	N/A	5.0-35.0	HTRSLV240RASM06	67.5-70.0	HTRSLV240RASM06	67.5-70.0	HTRSLV090FASM06
760.01-855.00	HTRSLV060RASM06	38.3-70.0	HTRSLV240RASM06	38.3-70.0	HTRSLV240RASM06	38.3-70.0	HTRSLV090FASM06
855.01-915.00	HTRSLV120RASM06	50.0-70.0	HTRSLV240RASM06	50.0-70.0	HTRSLV240RASM06	50.0-70.0	HTRSLV090FASM06
915.01-1000.00	HTRSLV240RASM06	30.0-58.3	HTRSLV240RASM06	30.0-58.3	HTRSLV240RASM06	30.0-58.3	HTRSLV090FASM06

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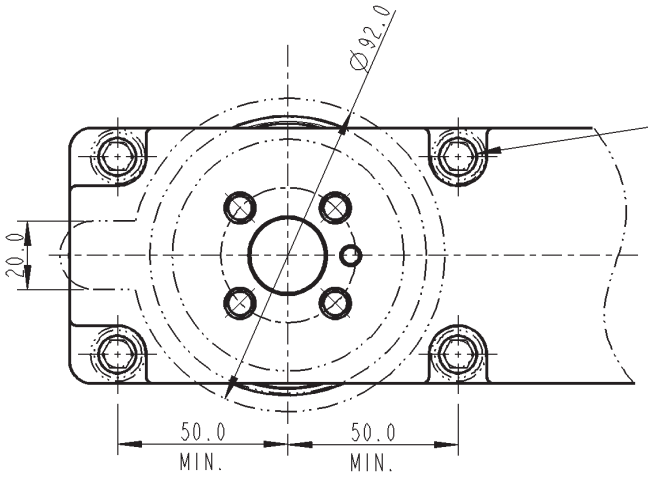
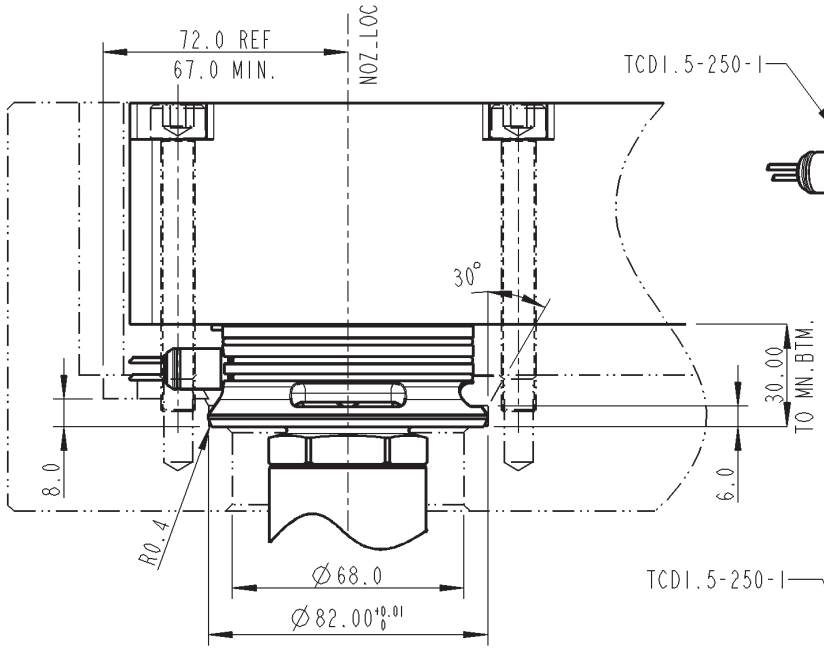
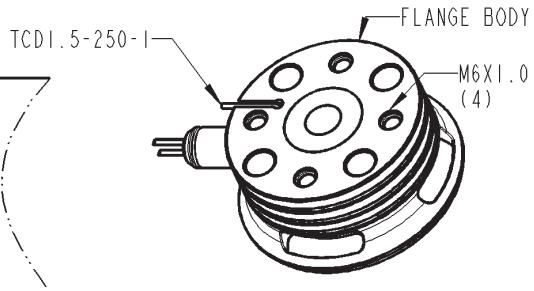


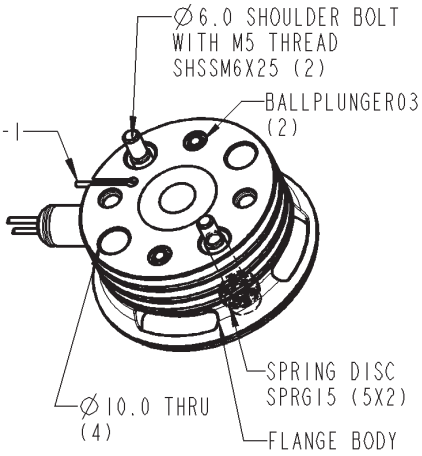
NOTE: 4X M10 or 3/8" SCREWS ARE HIGHLY RECOMMENDED TO BOLT MANIFOLD ONTO MOLD PLATE IN ORDER TO PROVIDE PROPER SEALING ON FLANGE CONTACT SURFACE.



NON DROP-IN VERSION



DROP-IN VERSION



FLANGE PACKAGE	FLANGE BODY	RUNNER DIA.	WATTAGE	APPLICATION
FLANGEFSI3P	FLANGEFSI3	Ø18.0	525W	NON DROP-IN
FLANGEFSI3PI	FLANGEFSI3	Ø18.0	525W	DROP-IN
FLANGEFSI4P	FLANGEFSI4	Ø22.0	525W	NON DROP-IN
FLANGEFSI4PI	FLANGEFSI4	Ø22.0	525W	DROP-IN

* CONTACT MOLD-MASTERS APPLICATION ENGINEER FOR FLANGE APPLICATION.

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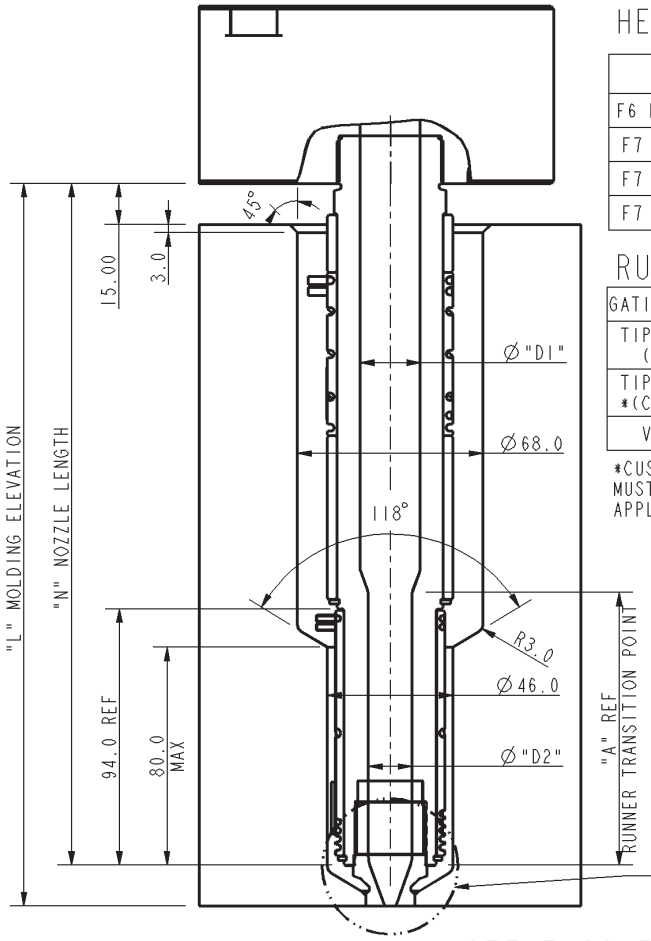


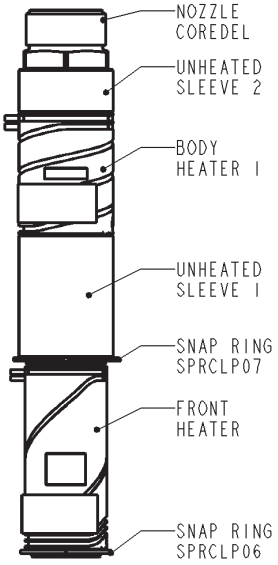
HEATER CONFIGURATION

CONFIG.	PART NUMBER	LENGTH	WATTAGE
F6 FRONT HEATER	HTRSLV090FASM05	90.0	525W
F7 BODY HEATER	HTRSLV060RASM06	60.0	700W
F7 BODY HEATER	HTRSLV120RASM06	120.0	750W
F7 BODY HEATER	HTRSLV240RASM06	240.0	950W

RUNNER SIZE

GATING TYPE	Ø"D1"	Ø"D2"	"A"
TIP/SPRUE (STD)	18.00	12.00	33.0
TIP/SPRUE *(CUSTOM)	22.00	16.00	100.0
VALVE	22.00	16.00	100.0

*CUSTOM GATE SEAL REQUIRED. MUST BE REVIEWED BY MM APPLICATION ENGINEERING.



NOZZLE CONFIGURATION

NOZZLE LENGTH "N" (MM)	UNHEATED SLEEVE 3	BODY HEATER	UNHEATED SLEEVE 2	BODY HEATER	UNHEATED SLEEVE 1	FRONT HEATER
189.00-229.00	N/A	N/A	N/A	HTRSLV060RASM06	20.0-60.0	HTRSLV090FASM05
229.01-264.00	N/A	N/A	5.0-35.0	HTRSLV060RASM06	55.0-60.0	HTRSLV090FASM05
264.01-289.00	N/A	N/A	N/A	HTRSLV120RASM06	35.0-60.0	HTRSLV060FASM05
289.01-319.00	N/A	N/A	5.0-30.0	HTRSLV120RASM06	55.0-60.0	HTRSLV090FASM05
319.01-349.00	N/A	HTRSLV060RASM06	45.0-60.0	HTRSLV060RASM06	45.0-60.0	HTRSLV090FASM05
349.01-409.00	N/A	HTRSLV060RASM06	30.0-60.0	HTRSLV120RASM06	30.0-60.0	HTRSLV090FASM05
409.01-469.00	N/A	HTRSLV120RASM06	30.0-60.0	HTRSLV120RASM06	30.0-60.0	HTRSLV090FASM05
469.01-504.00	5.0-35.0	HTRSLV120RASM06	57.5-60.0	HTRSLV120RASM06	57.5-60.0	HTRSLV090FASM05
504.01-529.00	N/A	HTRSLV060RASM06	47.5-60.0	HTRSLV240RASM06	47.5-60.0	HTRSLV090FASM05
529.01-589.00	N/A	HTRSLV120RASM06	30.0-60.0	HTRSLV240RASM06	30.0-60.0	HTRSLV090FASM05
589.01-624.00	5.0-35.0	HTRSLV120RASM06	57.5-60.0	HTRSLV240RASM06	57.5-60.0	HTRSLV090FASM05
624.01-709.00	N/A	HTRSLV240RASM06	17.5-60.0	HTRSLV240RASM06	17.5-60.0	HTRSLV090FASM05

* REFERENCE ONLY, ALWAYS REFER TO SYSTEM DRAWINGS TO ORDER SPARE PARTS.

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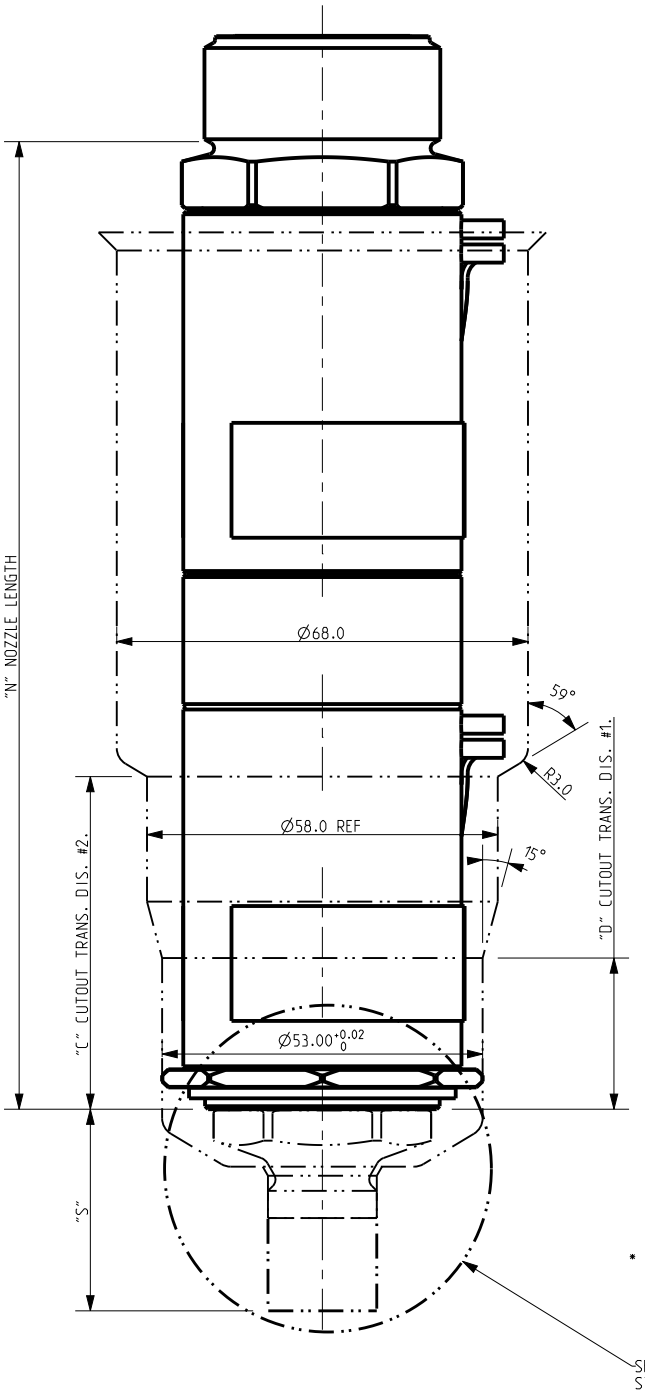
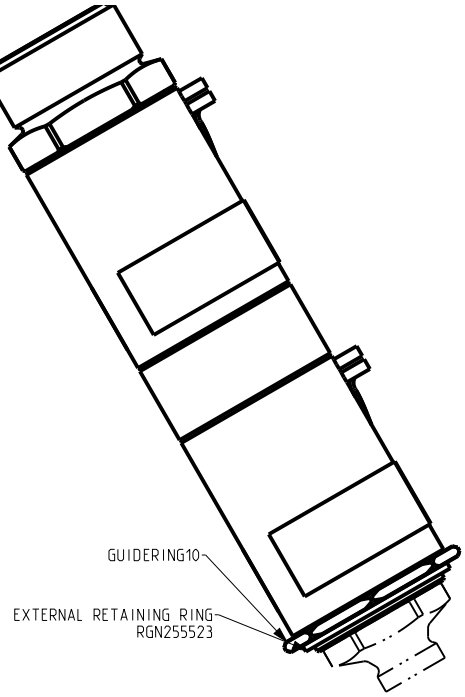
Centering Guide Ring (option)

07.01.085





NOTE:

"N"	"C" MAX.
<=265.0mm	55.0mm
> 265.01mm	75.0mm

GATING STYLE	"D"
NON EXT. STYLE	25.0mm
EXT. GATING STYLE	"S"-2 (mm)

* IN THE CASE THAT EXTENDED GATE SEAL WITH "S"> 48mm AND NOZZLE WITH 60mm LONG FRONT HEATER, NOZZLE BORE CUTOUT DESIGN SHOULD BE REVIEWED TO MAKE SURE NO INTERFERENCE BETWEEN HEATER TERMINAL AND NOZZLE BORE.

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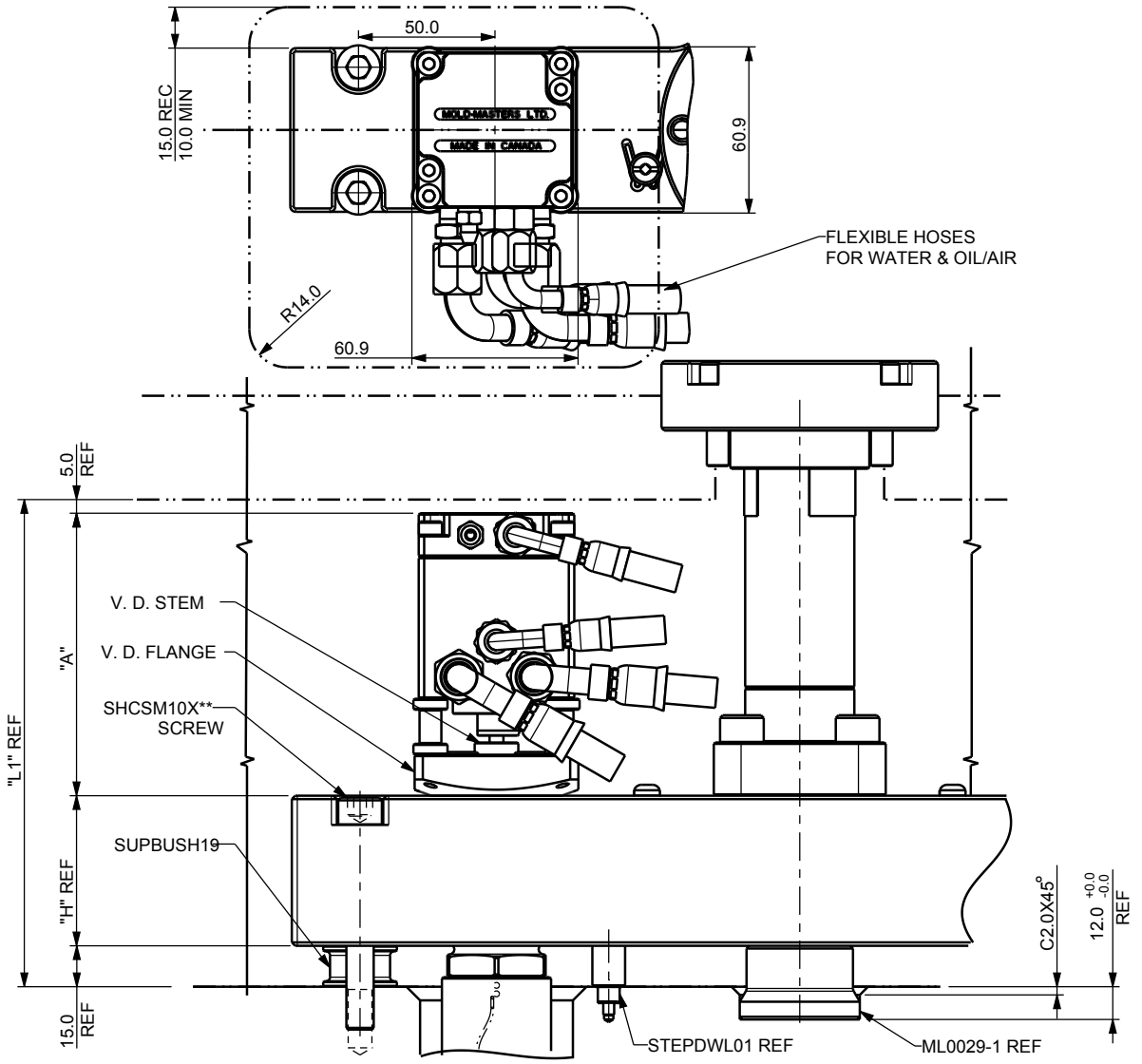
Hyd. Act. - Valve Disk Design

08.01.011



FUSION G2	ACTUATOR		STROKE	" H " REF	" A "	" L1 " REF	V. D. STEM (BLANK, TO BE FINISHED)	V. D. FLANGE	SCREW
	WITH SPACER	WITH SPRING							
F4000	HYG2100MG-A	HYG2110MG-A	12.5	50.00	88.5	158.5	VDSTEM009B	VDFLANGE004	SHCSM10X70
F4000	HYG2100MGAR-A	HYG2110MGAR-A		50.00	103.5	173.5	VDSTEM009B		SHCSM10X70
F5000	HYG2100MH-A	HYG2110MH-A		50.00	88.5	158.5	VDSTEM010B		SHCSM10X70
F5000	HYG2100MHAR-A	HYG2110MHAR-A		50.00	103.5	173.5	VDSTEM010B		SHCSM10X70
F6000	HYG2100MJ-A	HYG2110MJ-A		55.00	88.5	163.5	VDSTEM011B		SHCSM10X75
F6000	HYG2100MJAR-A	HYG2110MJAR-A		55.00	103.5	178.5	VDSTEM011B		SHCSM10X75
F6000	HYG2100MI-A	HYG2110MI-A		55.00	88.5	163.5	VDSTEM012B		SHCSM10X75
F6000	HYG2100MIAR-A	HYG2110MIAR-A		55.00	103.5	178.5	VDSTEM012B		SHCSM10X75
F7000	HYG2200MA-A	HYG2210MA-A	25.0	65.00	116.0	201.0	VDSTEM013B	VDFLANGE005	SHCSM10X90
F7000	HYG2200MAAR-A	HYG2210MAAR-A		65.00	135.5	220.5	VDSTEM013B		SHCSM10X90

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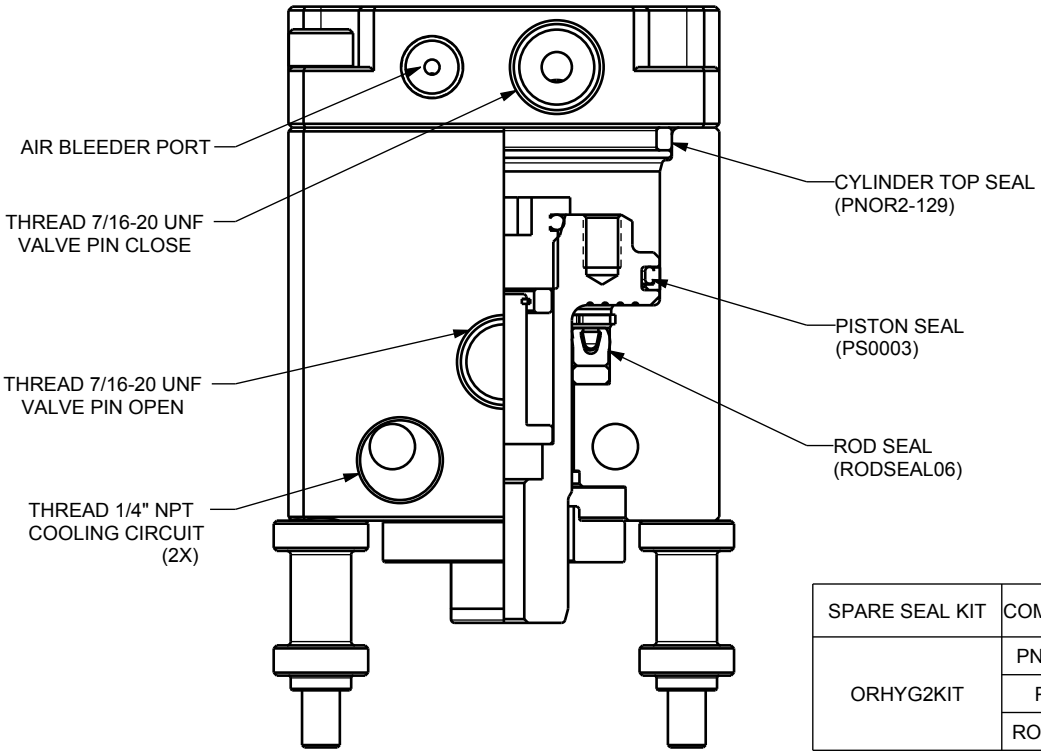

SPARE SEAL KIT	COMPONENTS INCLUDED	
ORHYG2KIT	PNOR2-129	1
	PS0003	1
	RODSEAL06	1

* SEE SYSTEM HYDRAULIC DRAWING FOR MORE DETAILS

FUSION G2	ACTUATOR		STROKE	PIN SIZE	RECOMMENDED MIN. CLEARANCE BETWEEN ACTUATORS AND INLETS
	WITH SPACER	WITH SPRING			
F4000	HYG2100MG**	HYG2110MG**	12.5	3.0	ACTUATORS: 65.0 X 65.0 IE13-IE15: 65.0 X 65.0 IE29-IE33: 75.0 X 75.0
F4000	HYG2100MGAR**	HYG2110MGAR**		3.0	
F5000	HYG2100MH**	HYG2110MH**		5.0	
F5000	HYG2100MHAR**	HYG2110MHAR**		5.0	
F6000	HYG2100MJAR**	HYG2110MJAR**		6.3	
F6000	HYG2100MJAR**	HYG2110MJAR**		6.3	
F6000	HYG2100MI**	HYG2110MI**		8.0	
F6000	HYG2100MIAR**	HYG2110MIAR**		8.0	
F6000&F7000	HYG2200MA**	HYG2210MA**	25.0	8.0	ACTUATORS: 65.0 X 65.0 IE13-IE15: 65.0 X 65.0 IE29-IE33: 75.0 X 75.0
F6000&F7000	HYG2200MAAR**	HYG2210MAAR**		8.0	

NOTE:
1. ALL CYLINDERS WITH ACRONYM "AR" ARE WITH ANTI-ROTATION FUNCTION - HIGHER ASSEMBLY
2. USE HYDRAULIC ACTUATORS WITH SPRING PACK FOR CONICAL GATES, FOR BETTER GATE STEEL PROTECTION
3. RECOMMEND WORKING PRESSURE: 30-50 BAR
4. TO ENSURE PROPER COOLING ON ACTUATORS, THE RECOMMENDED EXIT TEMPERATURE OF COOLING WATER CITCUIT IS NOT TO EXCEED 60° C
5. VALVE PIN POSITION MONITORING SOLUTION IS AVAILABLE FOR CUSTOM DESIGN
6. 25mm STROKE ACTUATORS CAN BE USED FOR F6000 AS WELL, JUST NEED TO SELECT THE PROPER VALVE DISK.

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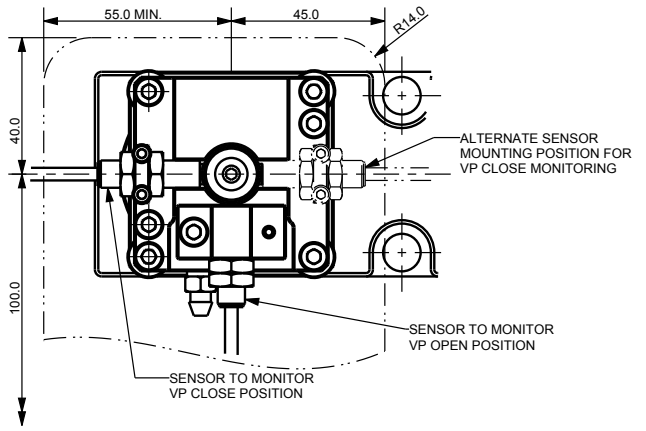
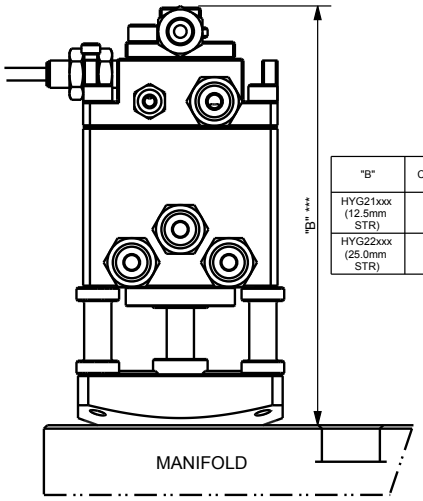
Hyd. Act. - VP Position Monitoring Option

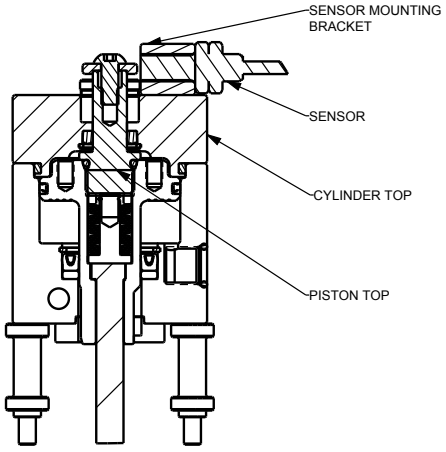
08.01.013





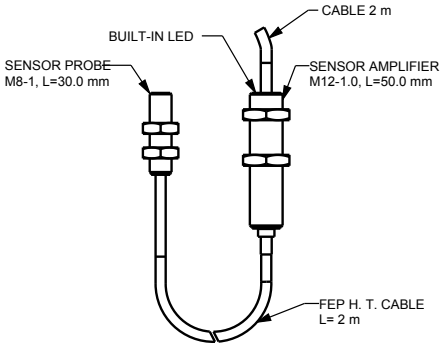
"B"	CLOSE POS.	OPEN&CLOSE POS.
HYG21xxx (12.5mm STR)	"A"+16.0	"A"+19.0
HYG22xxx (25.0mm STR)	"A"+28.0	"A"+31.0

***. ACCORDING TO THE SELECTED STANDARD PACKAGE, REFER BACK TO PG.08.01.010 &011 FOR VALUE "A".

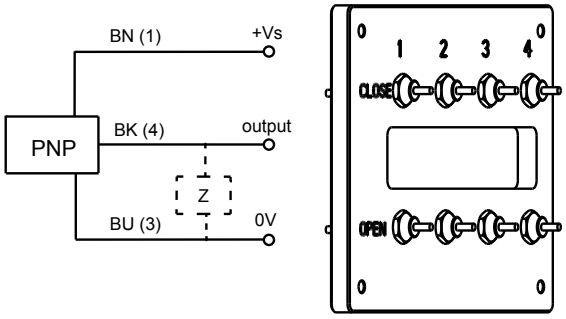


* PACKAGES SHOWN WITH HATCH.

HIGH OPERATING TEMPERATURE INDUCTIVE SENSOR (PNP,NO)



NOTE:
*. FLUSH MOUNTING TYPE SENSOR, NORMINAL SENSING DISTANCE Sn: 1.5mm
*. ONLY THE SENSOR PROBE AND THE 2 METER FEP CABLE ARE DESIGNED FOR HIGH TEMPERATURE ENVIROMENT
*. AMPLIFIER MOUNTING/RECESSING POSITION MUST BE CONSIDERED TO BE FAR AWAY FROM HEAT SOURCE DURING SYSTEM DESIGN
*. MAXIMUM INSTALLATION TORQUE: M8 = 10 Nm; M12 = 20Nm
*. THERE IS A BUILT-IN LED LIGHT ON THE AMPLIFIER END FACE TO SHOW THE STATUS OF THE SENSOR. A DISPLAY PLATE/BOX MUST BE DESIGNED FOR AMPLIFIER MOUNTING IF LED DISPLAY FEATURE IS REQUIRED. OR, THE AMPLIFIER CAN BE RECESSED IN WIRE CHANNEL OR ELECTRICAL BOX.



PACKAGES	SENSOR QUANTITY	MONITORING POSITION	USED FOR ACTUATORS
LIMSW0002P	SINGLE SENSOR	CLOSE ONLY	HYG21xxx UNITS, w/ 12.5mm STR
LIMSW0003P	DOUBLE SENSORS	OPEN & CLOSE	
LIMSW0004P	SINGLE SENSOR	CLOSE ONLY	HYG22xxx UNITS, w/ 25.0mm STR
LIMSW0005P	DOUBLE SENSORS	OPEN & CLOSE	

NOTE:
*.TO USE THE POSITION SENSOR OPTION, FIRST SELECT THE STANDARD ACTUATOR PACKAGE BASED ON SYSTEM DESIGN, REFERRING TO ACTUATOR SELECTION PAGES THEN, BUILD CUSTOM ACTUATOR PACKAGE BY REPLACING THE PISTON TOP AND CYLINDER TOP WITH SELECTED PACKAGE (ABOVE CHART)
*.IF CUSTOM STROKE IS NEEDED, MODIFY THE SENSOR MOUNTING BRACKET OR MAKE CUSTOM BRACKET
*.CUSTOMER TO DETERMINE THE REQUIRED SIGNALS FOR VALVE PIN POSITION: FULLY OPEN, FULLY CLOSE, OR BOTH SIGNALS.

CONTACT MOLD-MASTERS ENGINEERING FOR APPLICATION GUIDELINES

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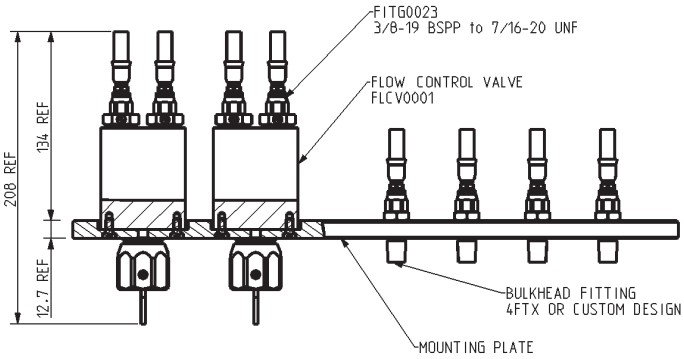
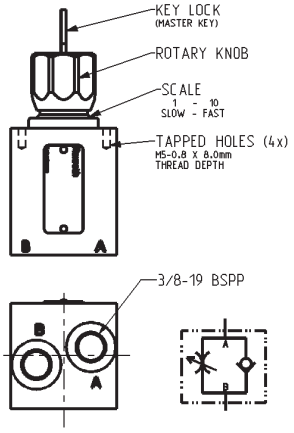
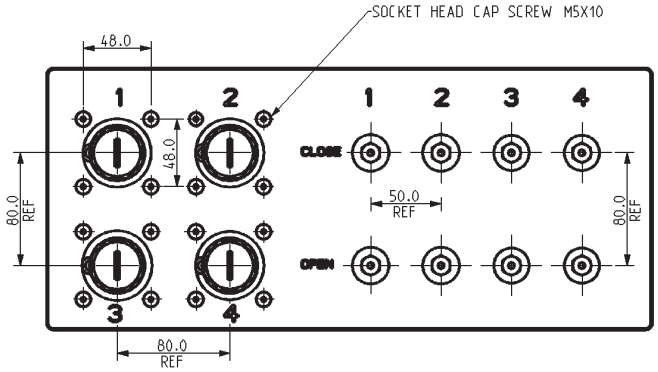
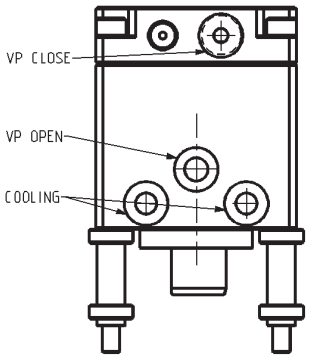


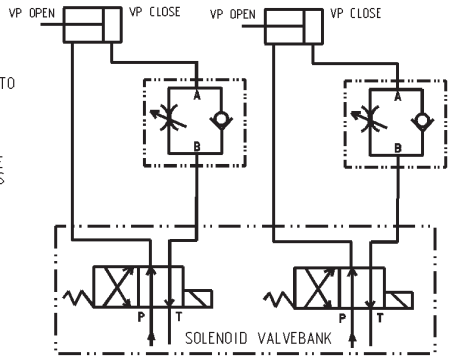
FLVC0001
BOSCH REXROTH 2-WAY FLOW CONTROL VALVE
2FRM6SB36-3X/16QRV







HYDRAULIC DIAGRAM



NOTE:

1. THIS FLOW CONTROL VALVE CONCEPT ALLOWS TO MANUALLY ADJUST VALVE PIN OPEN SPEED ONLY, (NO EFFECT TO VALVE PIN CLOSING SPEED)
2. PORT "A" CONNECTED TO THE CLOSING PORT OF ACTUATOR, WHILE PORT "B" DIRECTLY CONNECTED TO SOLENOID VALVE CLOSING PORT
3. RECOMMEND ONE FLOW CONTROL VALVE FOR ONE ACTUATOR ONLY; IF MULTIPLE ACTUATORS MUST BE CONNECTED IN SERIES, CONNECT THE FLOW CONTROL VALVE IN THE END, CLOSE TO SOLENOID VALVE
4. THE SCALE DIVISIONS ON THE KNOB REFLECT TO THE OIL FLOW RATE THROUGH THE VALVE CHANNEL. BIGGER NUMBER MEANS HIGHER FLOW RATE AND FASTER VALVE PIN OPEN SPEED. THE SETTING VALUE SHOULD BE TUNED DURING PROCESS OPTIMIZATION, AND MIGHT HAVE TO BE READJUSTED IF PROCESS OR EQUIPMENTS CHANGE.

CONTACT MOLD-MASTERS ENGINEERING FOR APPLICATION GUIDELINES

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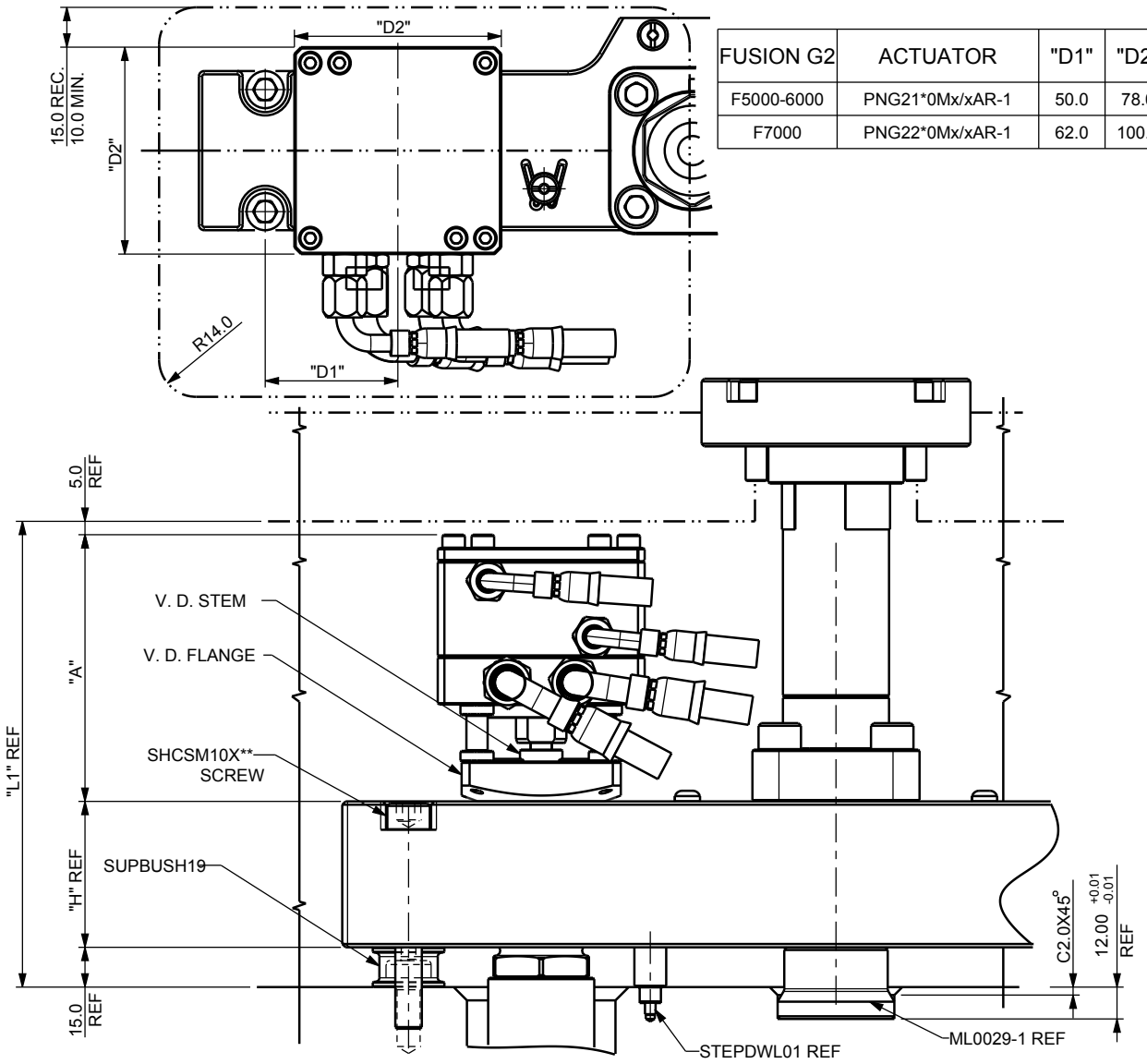

FUSION G2	ACTUATOR	"D1"	"D2"
F5000-6000	PNG21*0Mx/xAR-1	50.0	78.0
F7000	PNG22*0Mx/xAR-1	62.0	100.0

FUSION G2	ACTUATOR		STROKE	" H " REF	" A "	" L1 " REF	V. D. STEM (BLANK, TO BE FINISHED)	V. D. FLANGE	SCREW
	WITH SPACER	WITH SPRING							
F4000	HYG2100MG-A	HYG2110MG-A	12.5	SEE PG.08.01.011			VDSTEM009B	VDFLANGE004	SHCSM10X70
F4000	HYG2100MGAR-A	HYG2110MGAR-A					VDSTEM009B		SHCSM10X70
F5000	PNG2100MG-A (WITHOUT SPCR/SPRG)			50.00	89.5	159.5	VDSTEM010B		SHCSM10X70
F5000	PNG2100MGAR-A (WITHOUT SPCR/SPRG)			50.00	100.5	170.5	VDSTEM010B		SHCSM10X70
F6000	PNG2100MH-A (WITHOUT SPCR/SPRG)			55.00	89.5	164.5	VDSTEM012B		SHCSM10X75
F6000	PNG2100MHAR-A (WITHOUT SPCR/SPRG)			55.00	100.5	175.5	VDSTEM012B		SHCSM10X75
F6000	PNG2100MI-A (WITHOUT SPCR/SPRG)			55.0	89.5	164.5	VDSTEM011B		SHCSM10X75
F6000	PNG2100MIAR-A (WITHOUT SPCR/SPRG)			55.0	100.5	175.5	VDSTEM011B		SHCSM10X75
F7000	PNG2200MA-A	PNG2210MA-A	25.0	65.00	132.5	217.5	VDSTEM013B	VDFLANGE005	SHCSM10X90
F7000	PNG2200MAAR-A	PNG2210MAAR-A		65.00	157.0	242.0	VDSTEM013B		SHCSM10X90

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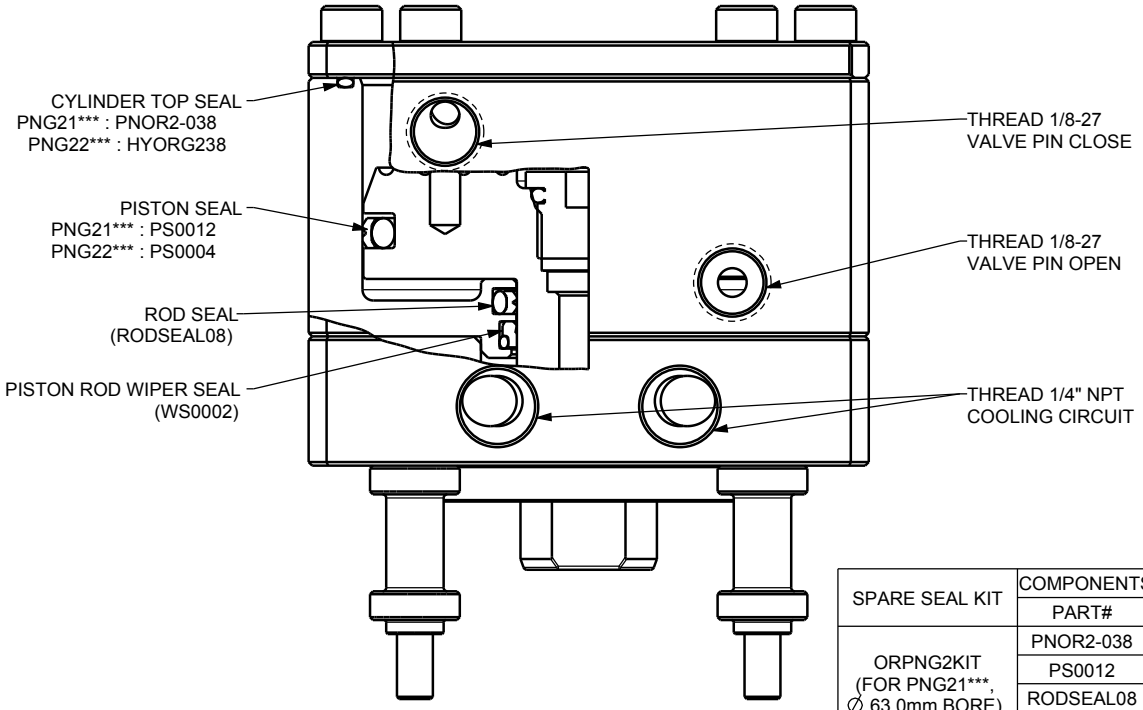

SPARE SEAL KIT	COMPONENTS INCLUDED	
	PART#	QTY
ORPNG2KIT (FOR PNG21***, ∅ 63.0mm BORE)	PNOR2-038	1
	PS0012	1
	RODSEAL08	1
	WS0002	1
ORPNG2KIT1 (FOR PNG22***, ∅ 80.0mm BORE)	HYORG238	1
	PS0004	1
	RODSEAL08	1
	WS0002	1

* SEE SYSTEM HYDRAULIC DRAWING FOR MORE DETAILS

FUSION G2	ACTUATOR		STROKE	PIN SIZE	RECOMMENDED CLEARANCE BETWEEN ACTUATORS AND INLETS
	WITH SPACER	WITH SPRING			
F4000	HYG2100MG**	HYG2110MG**	12.5	3.0	65.0 X 65.0
F4000	HYG2100MGAR**	HYG2110MGAR**		3.0	
F5000	PNG2100MG** (WITHOUT SPCR/SPRG)			5.0	ACTUATORS: 85.0 X 85.0 IE13-IE15: 75.0 X 75.0 IE29-IE33: 85.0 X 85.0
F5000	PNG2100MGAR** (WITHOUT SPCR/SPRG)			5.0	
F6000	PNG2100MH** (WITHOUT SPCR/SPRG)			8.0	
F6000	PNG2100MHAR** (WITHOUT SPCR/SPRG)			8.0	
F6000	PNG2100MI** (WITHOUT SPCR/SPRG)			6.3	
F6000	PNG2100MIAR** (WITHOUT SPCR/SPRG)			6.3	
F6000&F7000	PNG2200MA**	PNG2210MA**	25.0	8.0	ACTUATORS:105.0 X 105.0 IE13- IE15: 85.0 X 85.0 IE29- IE33: 95.0 X 95.0
F6000&F7000	PNG2200MAAR**	PNG2210MAAR**		8.0	

NOTE:
1. ALL CYLINDERS WITH ACRONYM "AR" ARE WITH ANTI-ROTATION FUNCTION - HIGHER ASSEMBLY
2. USE HYDRAULIC ACTUATORS WITH SPRING PACK FOR CONICAL GATES, FOR BETTER GATE STEEL PROTECTION
3. RECOMMEND WORKING PRESSURE: 5-8 BAR
4. TO ENSURE PROPER COOLING ON ACTUATORS, THE RECOMMENDED EXIT TEMPERATURE OF THE COOLING WATER CIRCUIT IS NOT TO EXCEED 60° C
5. VALVE PIN POSITION MONITORING SOLUTION IS AVAILABLE FOR CUSTOM DESIGN
6. 25mm STROKE ACTUATORS CAN BE USED FOR F6000 AS WELL, JUST NEED TO SELECT THE PROPER VALVE DISK

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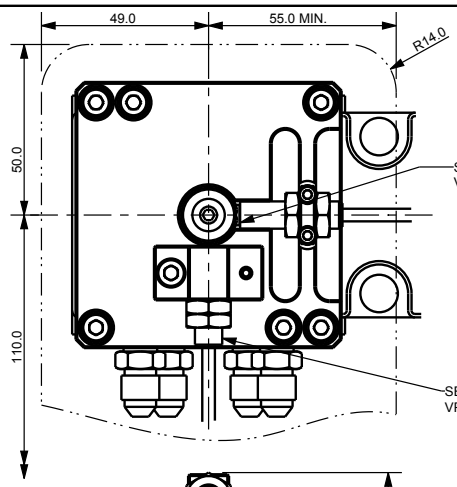
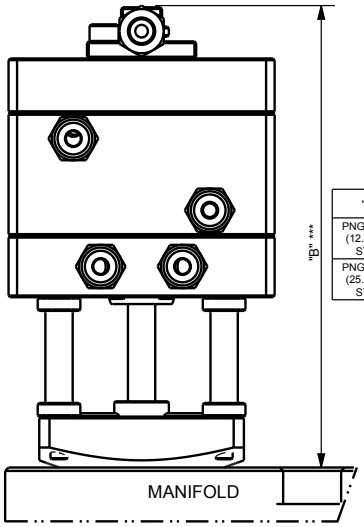
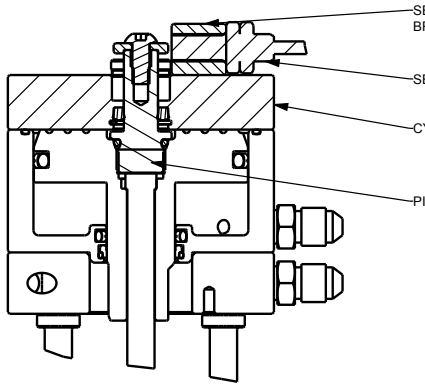




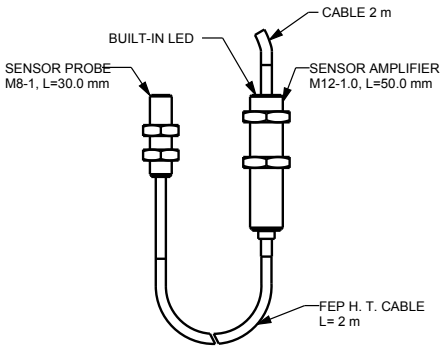
"B"	CLOSE POS.	OPEN&CLOSE POS.
PNG21xxx (12.5mm STR)	"A"+18.0	"A"+21.0
PNG22xxx (25.0mm STR)	"A"+30.0	"A"+33.0

***. ACCORDING TO THE SELECTED STANDARD PACKAGE, REFER BACK TO PG.08.01.020 &021 FOR VALUE "A".

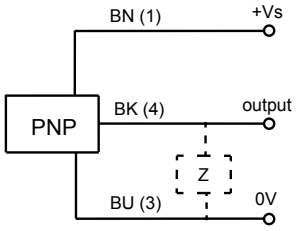


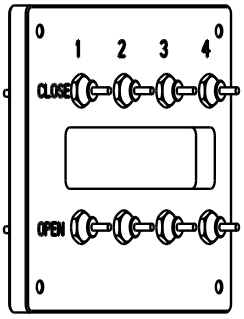
* PACKAGES SHOWN WITH HATCH.

HIGH OPERATING TEMPERATURE INDUCTIVE SENSOR (PNP,NO)



NOTE:
*. FLUSH MOUNTING TYPE SENSOR, NORMINAL SENSING DISTANCE Sn: 1.5mm
*. ONLY THE SENSOR PROBE AND THE 2 METER FEP CABLE ARE DESIGNED FOR HIGH TEMPERATURE ENVIROMENT
*. AMPLIFIER MOUNTING/RECESSING POSITION MUST BE CONSIDERED TO BE FAR AWAY FROM HEAT SOURCE DURING SYSTEM DESIGN
*. MAXIMUM INSTALLATION TORQUE: M8 = 10 Nm; M12 = 20Nm
*. THERE IS A BUILT-IN LED LIGHT ON THE AMPLIFIER END FACE TO SHOW THE STATUS OF THE SENSOR. A DISPLAY PLATE/BOX MUST BE DESIGNED FOR AMPLIFIER MOUNTING IF LED DISPLAY FEATURE IS REQUIRED. OR, THE AMPLIFIER CAN BE RECESSED IN WIRE CHANNEL OR ELECTRICAL BOX.





PACKAGES	SENSOR QUANTITY	MONITORING POSITION	USED FOR ACTUATORS
LIMSW0005P	SINGLE SENSOR	CLOSE ONLY	PNG21xxx UNITS, w/ 12.5mm STR
LIMSW0006P	DOUBLE SENSORS	OPEN & CLOSE	
LIMSW0007P	SINGLE SENSOR	CLOSE ONLY	PNG22xxx UNITS, w/ 25.0mm STR
LIMSW0008P	DOUBLE SENSORS	OPEN & CLOSE	

NOTE:
*.TO USE THE POSITION SENSOR OPTION, FIRST SELECT THE STANDARD ACTUATOR PACKAGE BASED ON SYSTEM DESIGN, REFERRING TO ACTUATOR SELECTION PAGES THEN, BUILD CUSTOM ACTUATOR PACKAGE BY REPLACING THE PISTON TOP AND CYLINDER TOP WITH SELECTED PACKAGE (ABOVE CHART)
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*.CUSTOMER TO DETERMINE THE REQUIRED SIGNALS FOR VALVE PIN POSITION: FULLY OPEN, FULLY CLOSE, OR BOTH SIGNALS.

CONTACT MOLD-MASTERS ENGINEERING FOR APPLICATION GUIDELINES

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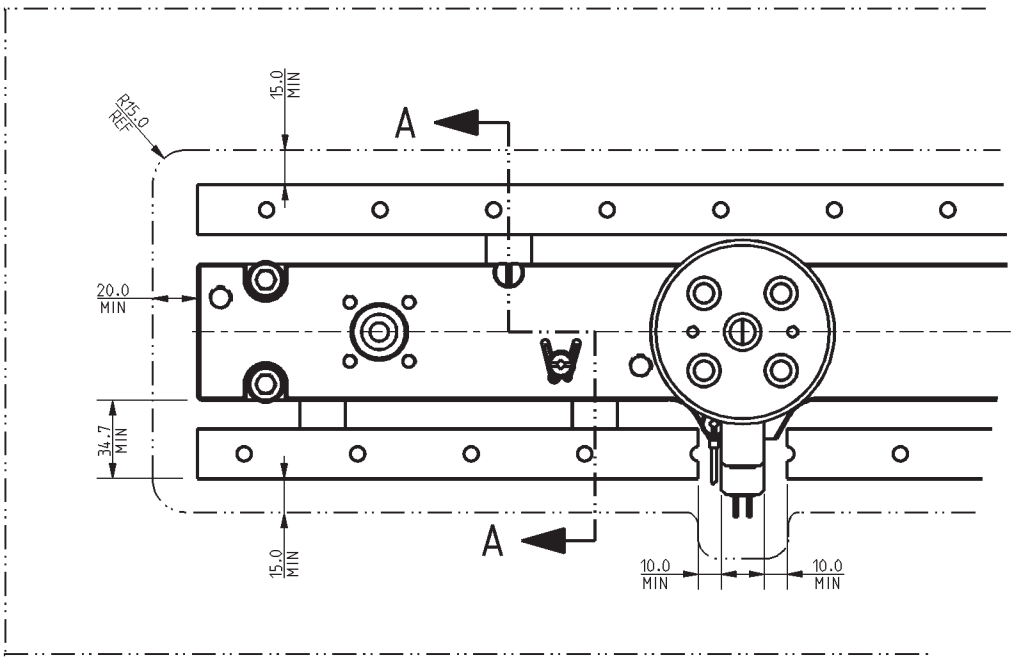
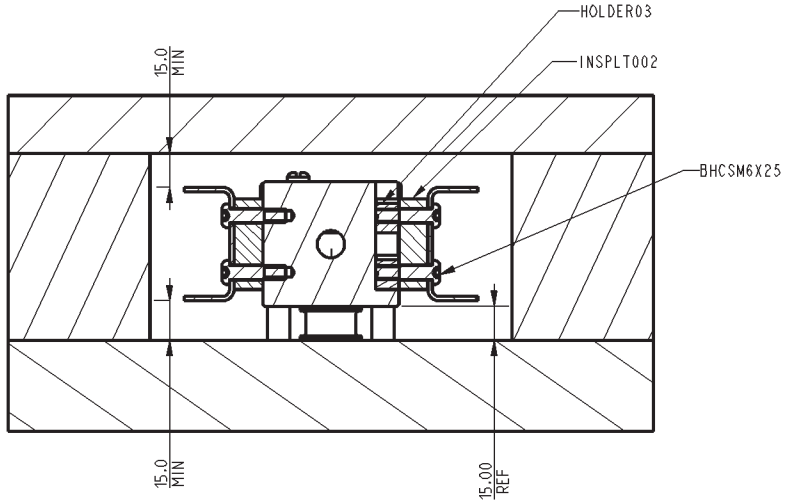


NOTE: WIRE ARMOR ON BOTH SIDE OF THE MANIFOLD IS NON TYPICAL, THIS IS ONLY SHOWN AS DESIGN CONCEPT.



SECTION A-A

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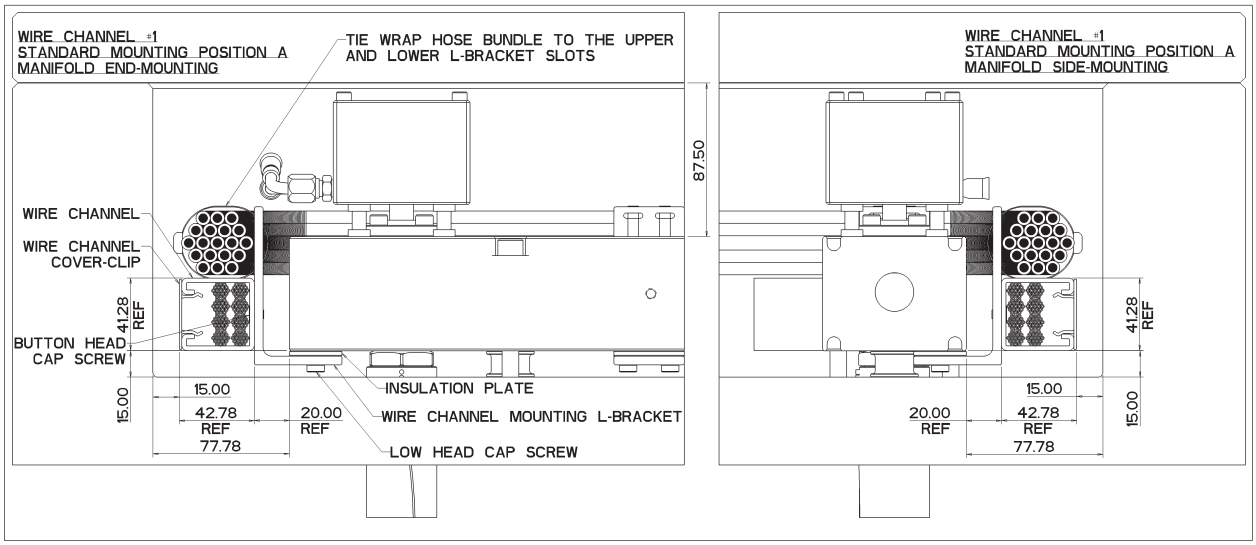

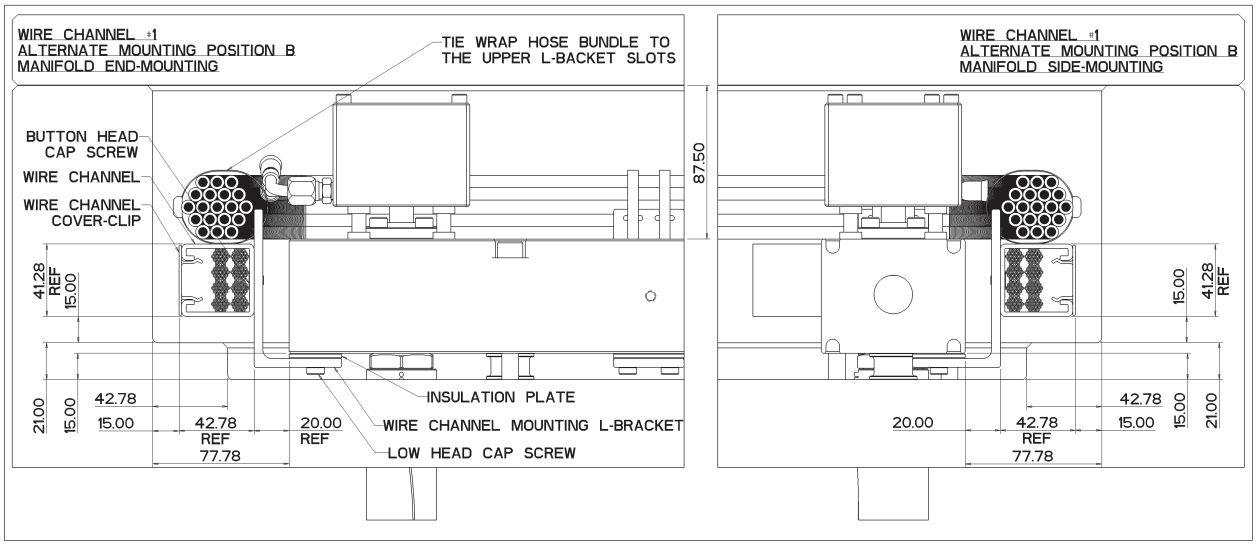

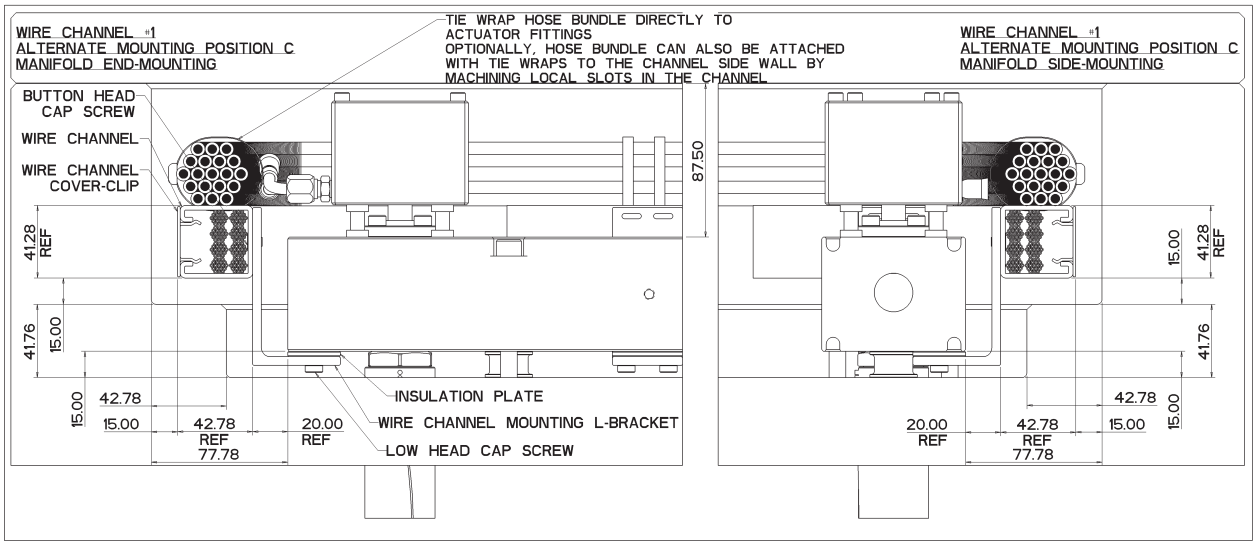

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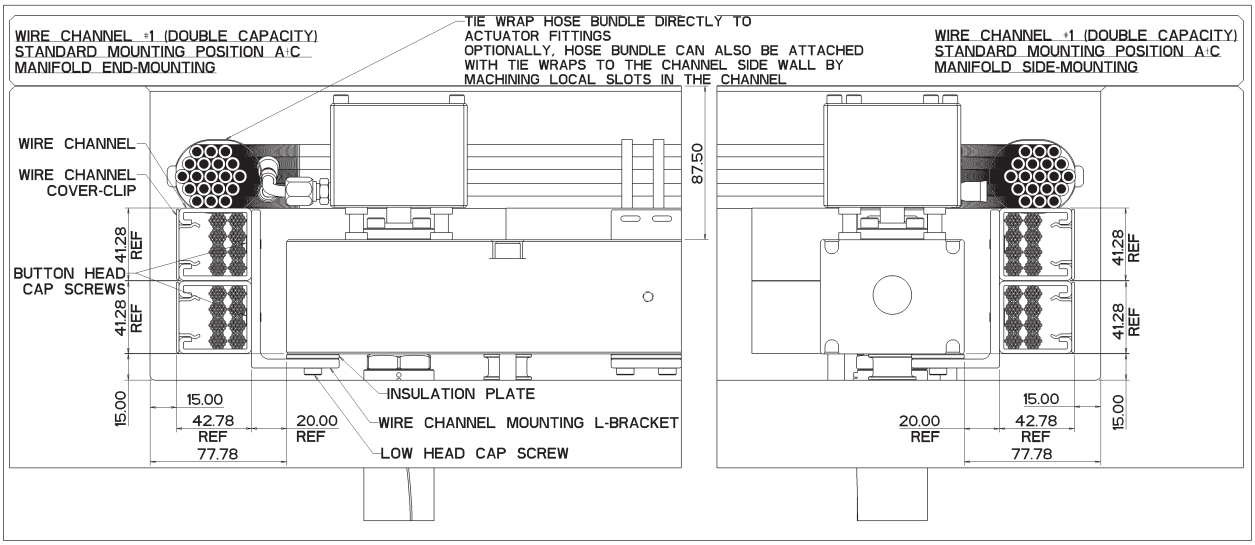

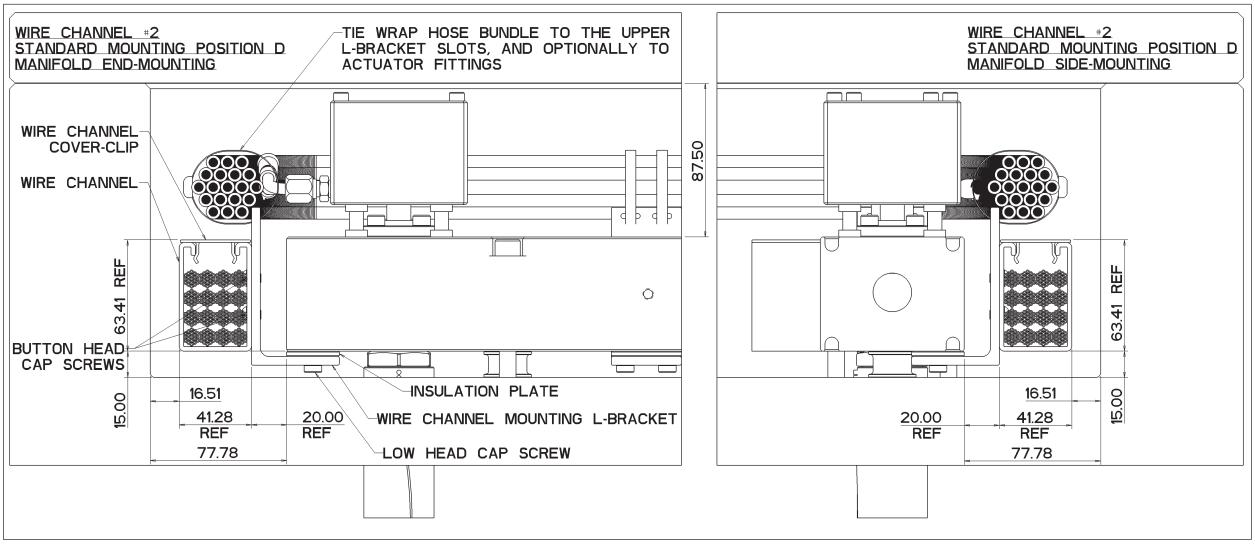

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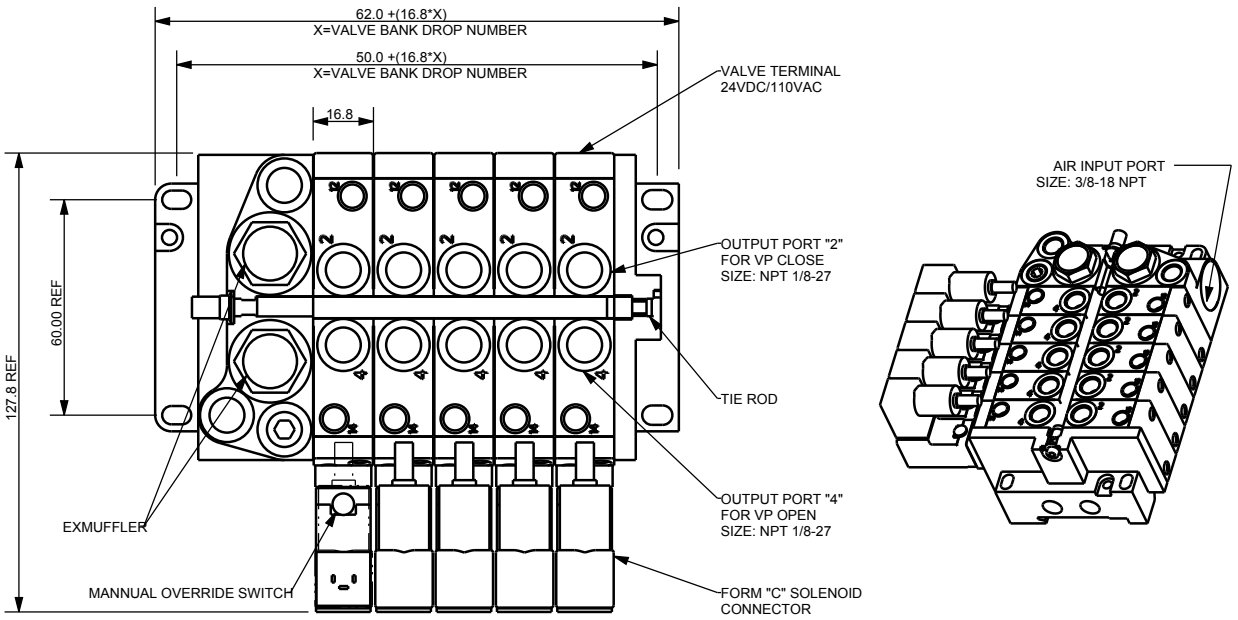
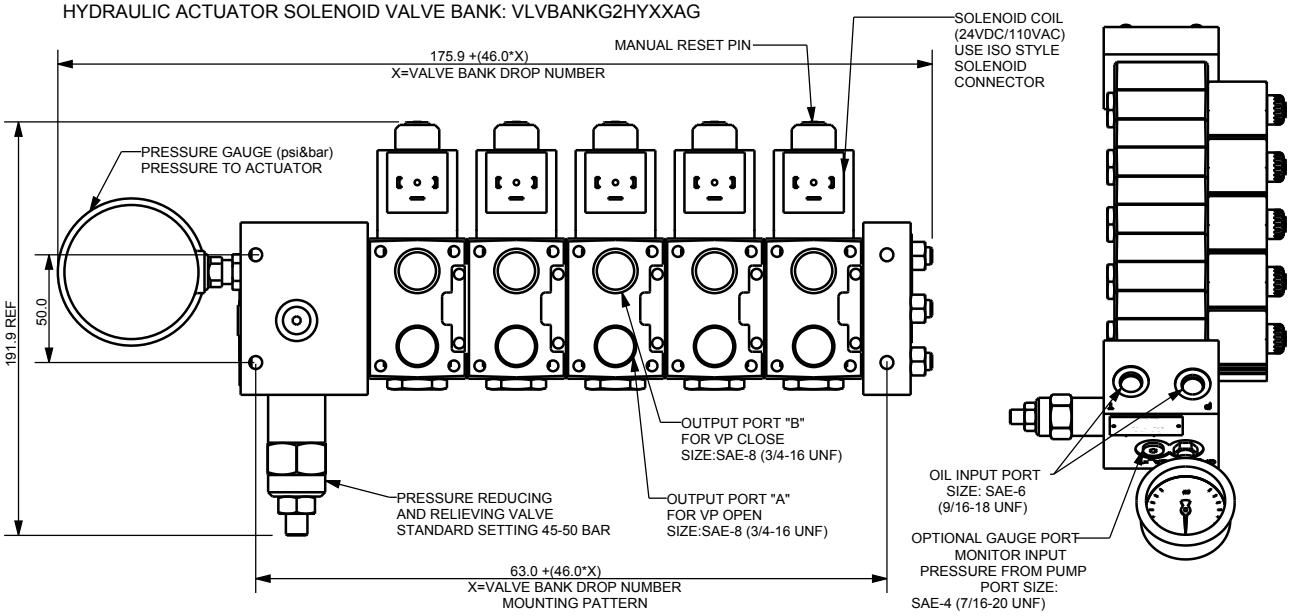
PNEUMATIC ACTUATOR SOLENOID VALVE BANK: VLVBANKG2PNXXX



HYDRAULIC ACTUATOR SOLENOID VALVE BANK: VLVBANKG2HYXXAG



NOTE:

*. STANDARD SOLENOID VALVEBANK, AVAILABLE CONFIGURATION: 2-10 UNITS FOR HYDRAULIC AND 2-12 UNITS FOR PNEUMATIC
*. OPERATING VOLTAGE OPTION: "A" - 24VDC; "B" - 110 VAC. FOR HYDRAULIC VALVE BANK, 110VAC IS OPTIONAL
FOR EXAMPLE,VLVBANKPNG205A: A 5-UNITS PNEUMATIC SOLENOID VALVEBANK WITH 24VDC OPERATING VOLTAGE
*. REFER TO GA DRAWING FOR RECOMMENDED WORKING PRESSURE. HYDRAULIC VALVE BANK DEFAULT SETTING: 45-50 BAR.
*. CUSTOM FITTING FOR EXTERNAL INTERFACE ARE AVAILABLE AS PER REQUEST
*. SOLENOID CONNECTORS WITH LED LIGHT AND HIGH TEMPERATURE CABLES ARE AVAILABLE AS OPTION

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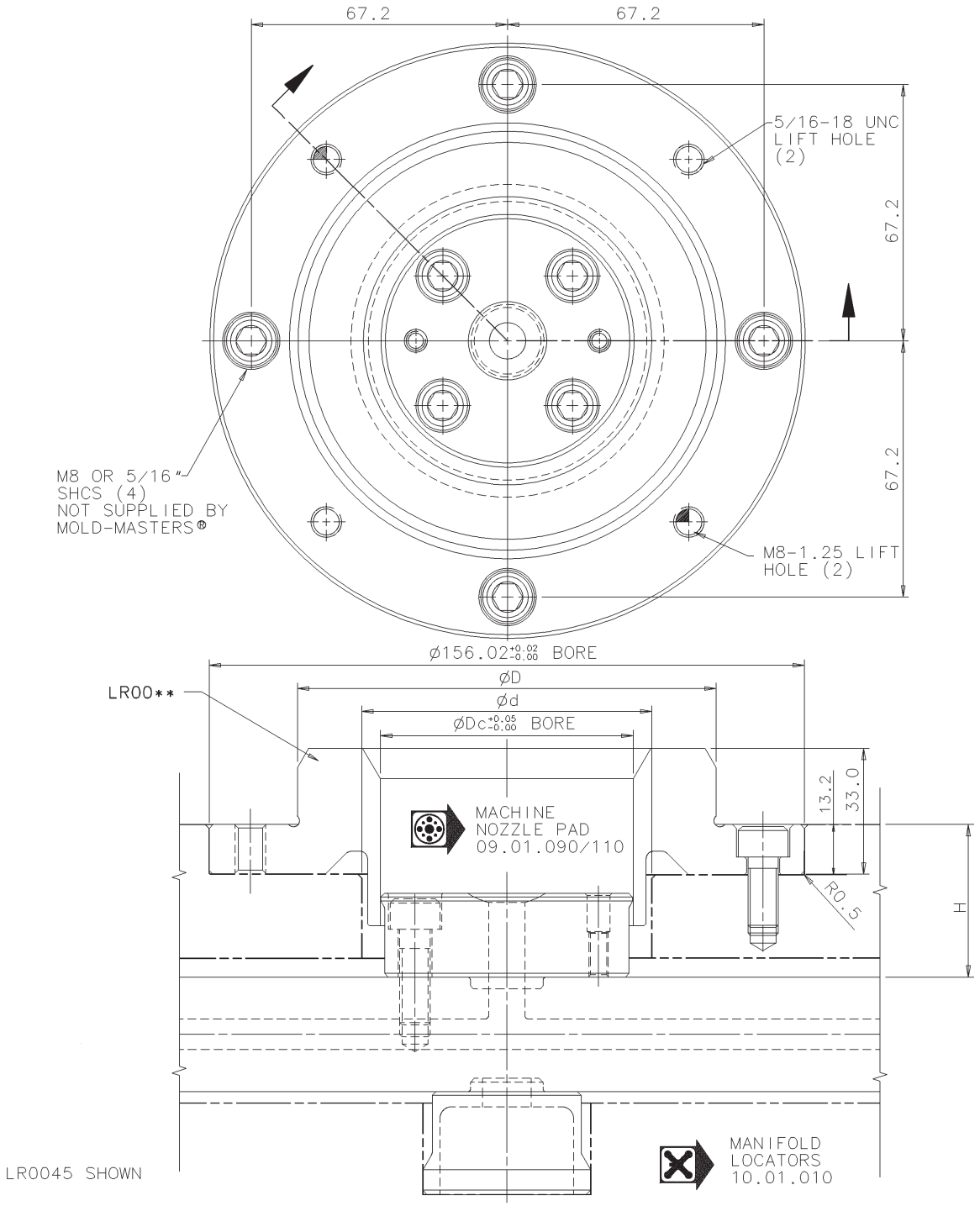

LOCATING RING OPTIONS					
LOCATING RING #	øD	ød	øDc	H	USED WITH MACHINE NOZZLE PAD #
LR0045	109.75	76.0	66.25	40.0 TO 45.0	BP22**** OR BP23****
LR0046	101.34	76.0	66.25		
LR0070	101.34	93.0	81.25	70.0 TO 75.0	BP58**** OR BP64****
LR0071	109.75	93.0	81.25		

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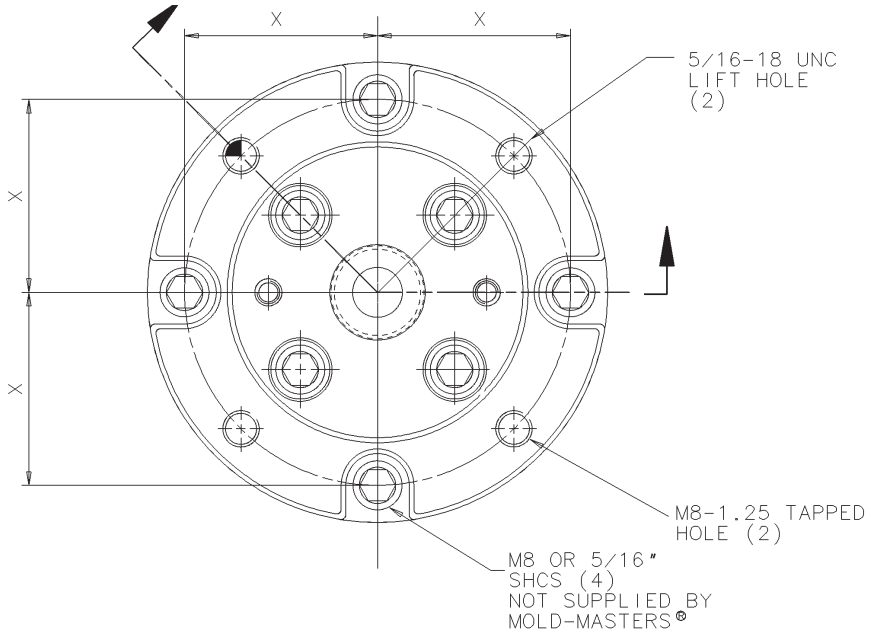

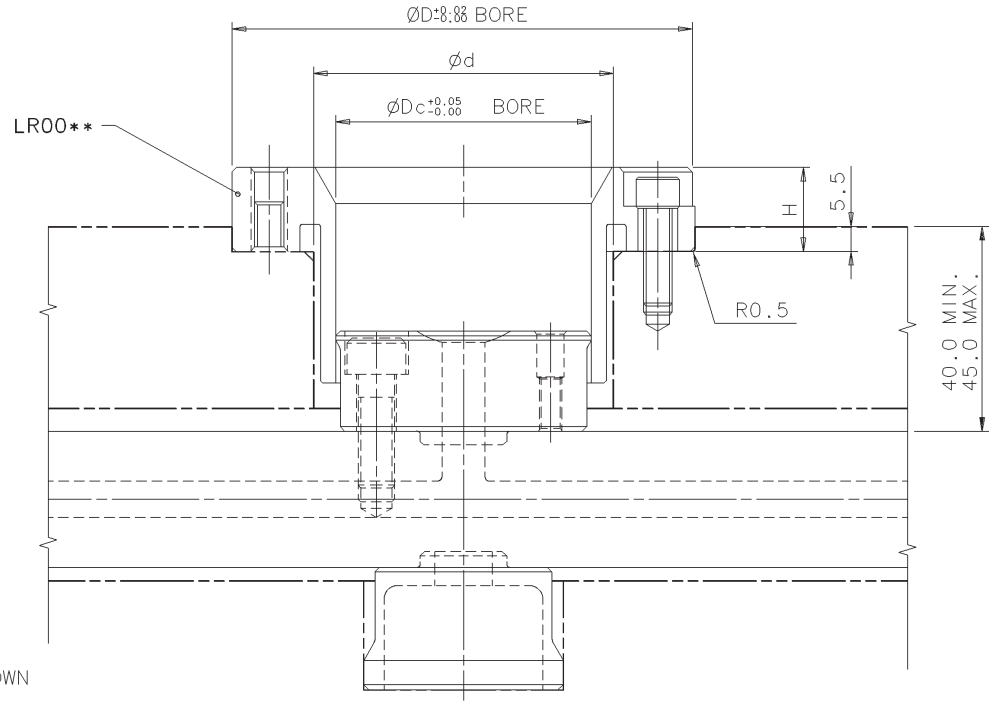

LR0031 SHOWN

LOCATING RING OPTIONS						
LOCATING RING #	ØD	Ød	ØDc	X	H	USED WITH MACHINE NOZZLE PAD #
LR0031	101.36	66.0	56.25	42.5	18.5	BP25/27**** OR BP67****
LR0032	109.77	66.0	56.25	42.5	18.5	BP25/27**** OR BP67****
LR0033	101.36	66.0	56.25	42.5	25.5	BP25/27**** OR BP67****

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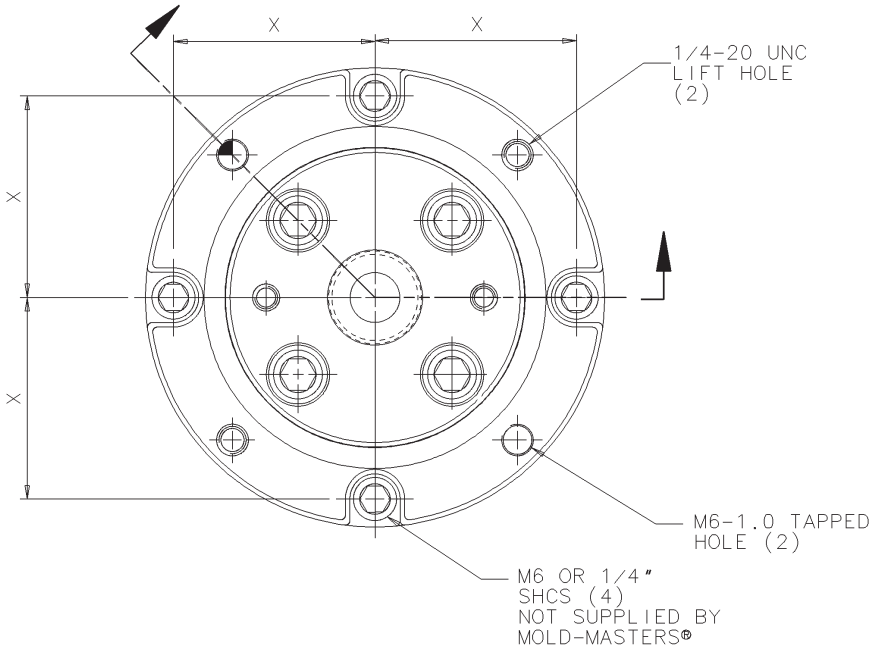

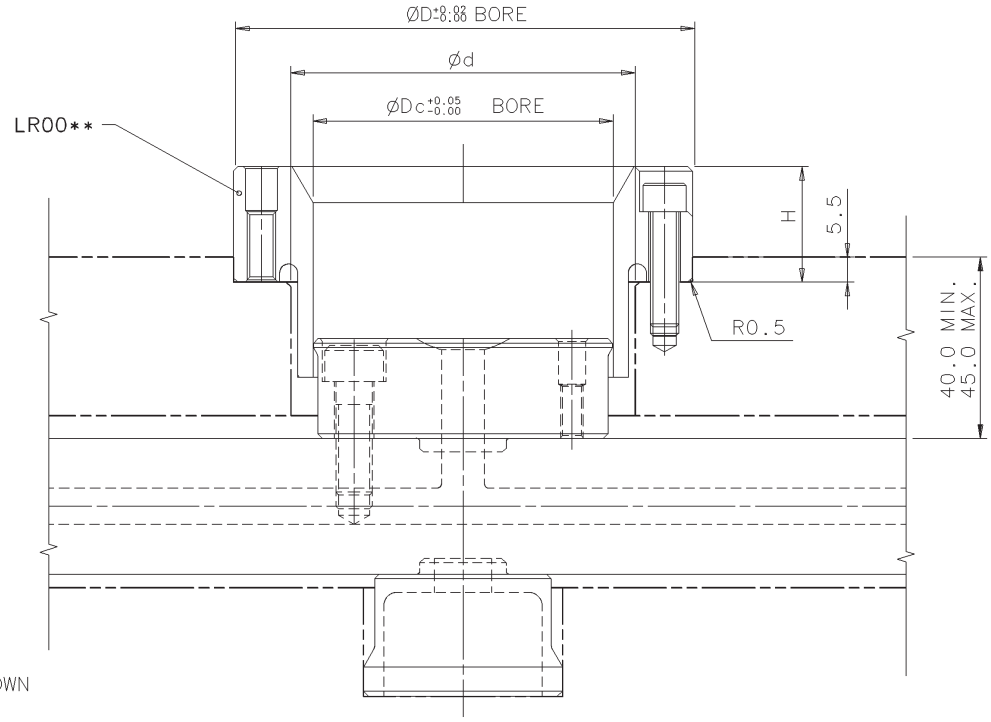

LR0051 SHOWN

LOCATING RING OPTIONS						
LOCATING RING #	ØD	Ød	ØDc	X	H	USED WITH MACHINE NOZZLE PAD #
LR0051	101.36	76.0	66.25	44.5	25.5	BP22/23**** OR BP57/68****
LR0052	109.77	76.0	66.25	44.5	25.5	BP22/23**** OR BP57/68****

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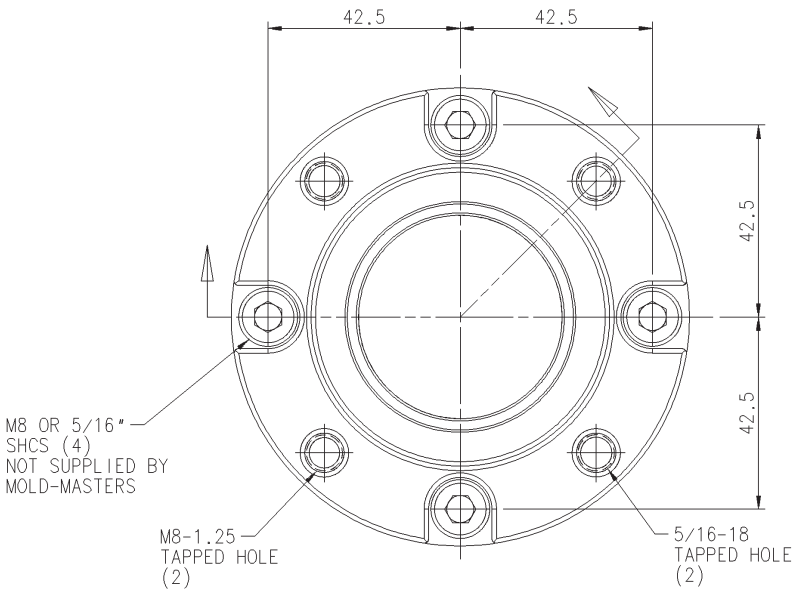
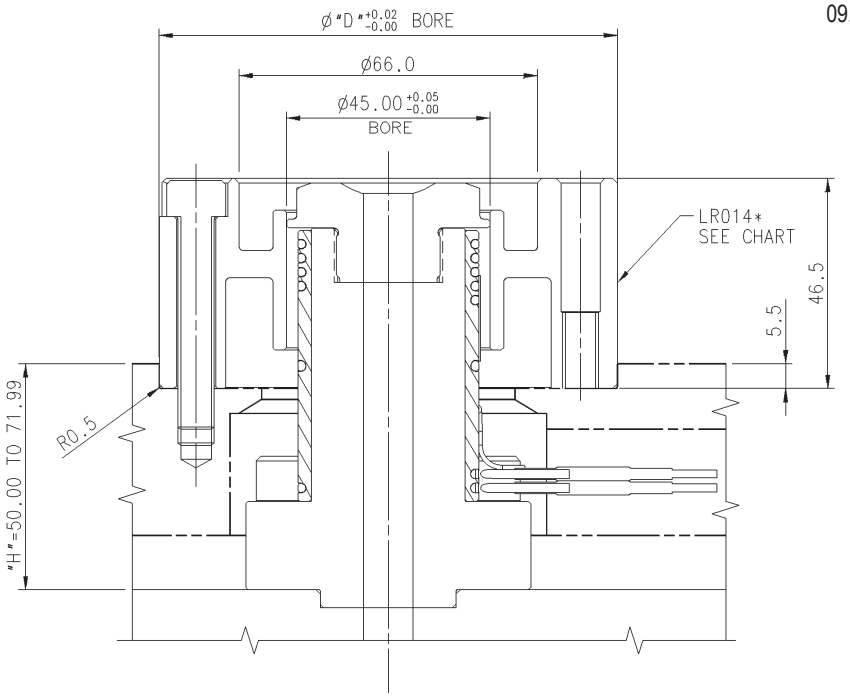


INLET
EXTENSIONS
09.01.120
09.01.125



LR0146 SHOWN

LOCATING RING OPTIONS		
LOCATING RING #	ØD	USED WITH
LR0146	101.36	INLET EXTENSIONS IE13080, IE14080 OR IE15080 (FOR 50.00mm ≦ "H" ≦ 71.99mm)
LR0147	126.77	
LR0148	109.77	
LR0149	99.77	

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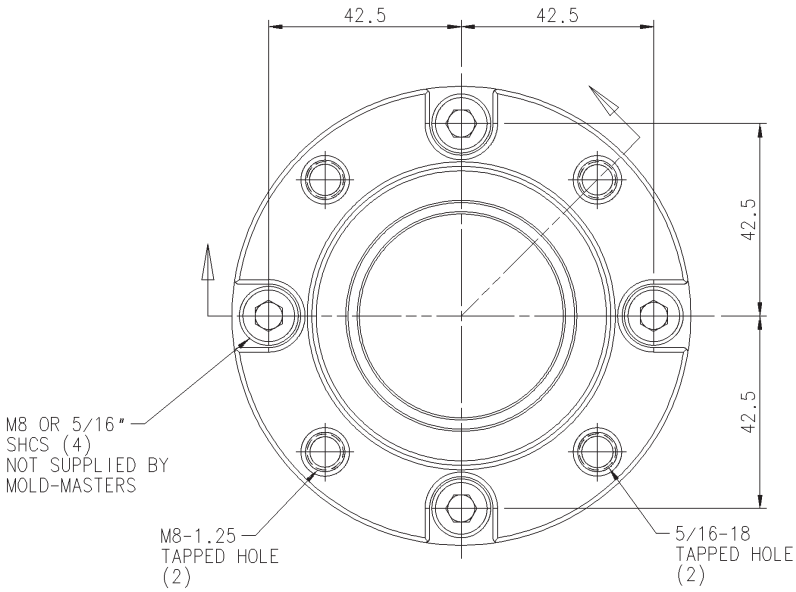
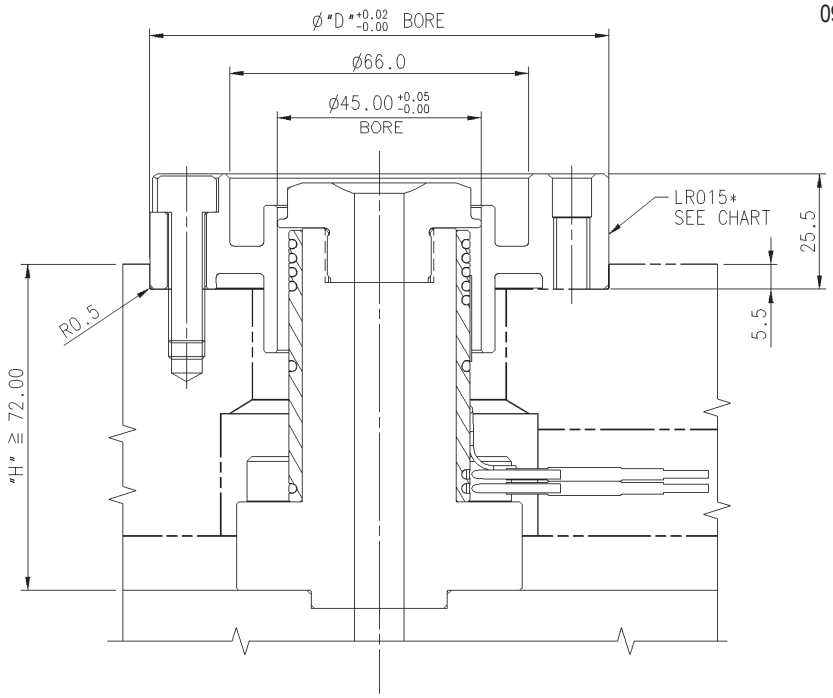


INLET
EXTENSIONS
09.01.120
09.01.125



LR0150 SHOWN

LOCATING RING OPTIONS		
LOCATING RING #	øD	USED WITH
LR0150	101.36	INLET EXTENSIONS IE13xxx, IE14xxx OR IE15xxx (FOR "H" ≥ 72.00mm)
LR0151	126.77	
LR0152	109.77	
LR0153	99.77	

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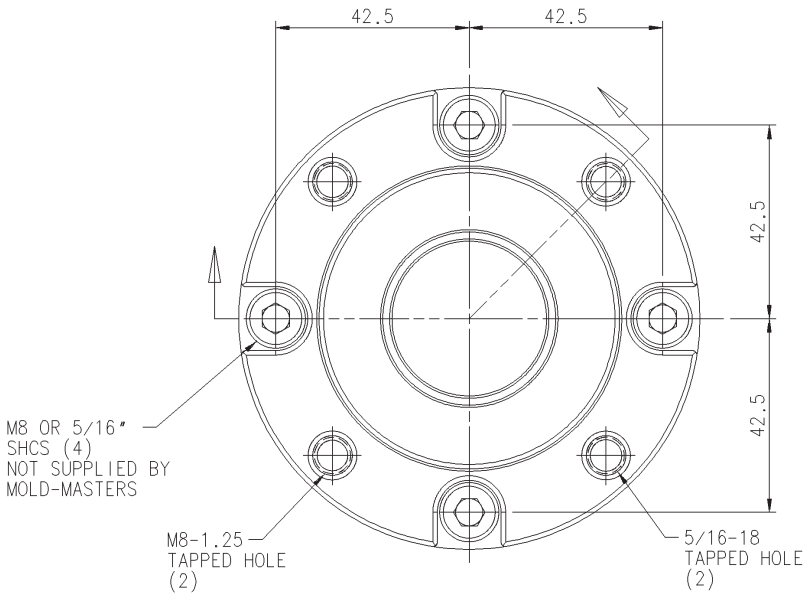
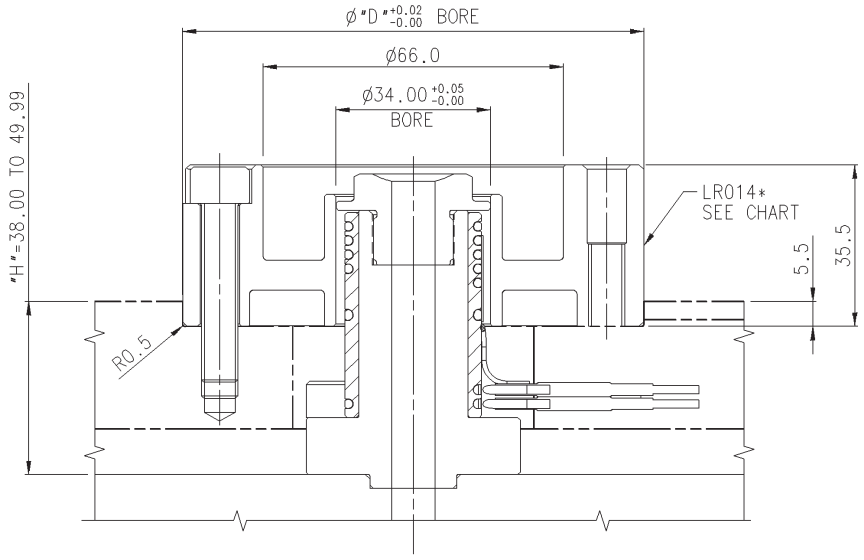


INLET
EXTENSIONS
09.01.130
09.01.135



LR0140 SHOWN

LOCATING RING OPTIONS		
LOCATING RING #	ØD	USED WITH
LR0140	101.36	INLET EXTENSIONS IE11058, OR IE12058 (FOR 38.00mm ≦ "H" ≦ 49.99mm)
LR0141	109.77	
LR0142	99.77	

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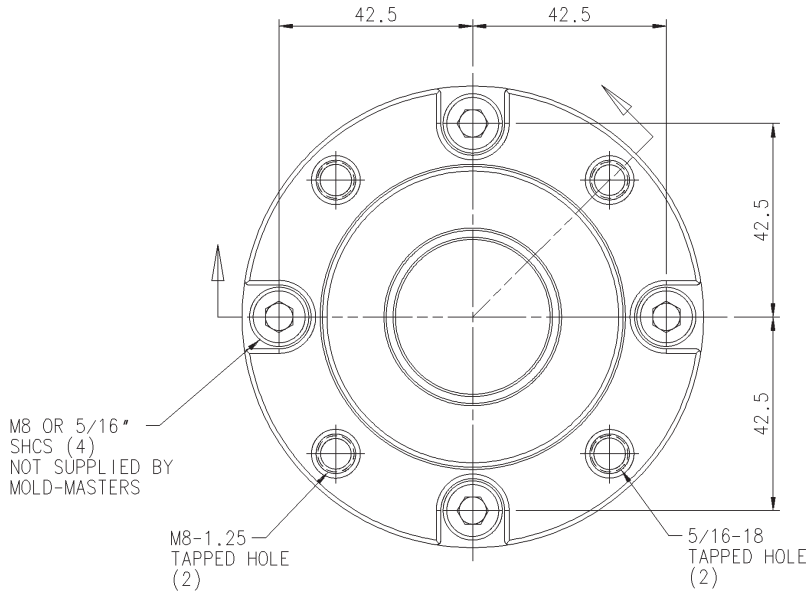
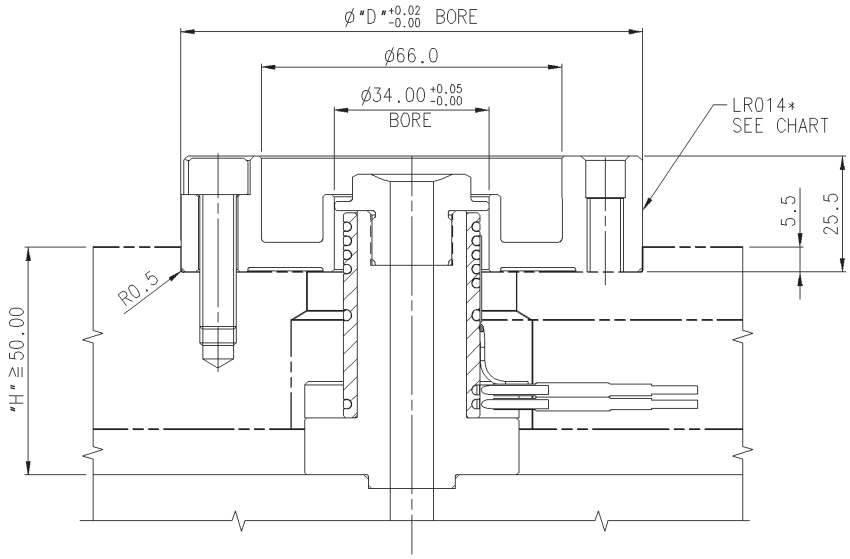


INLET
EXTENSIONS
09.01.130
09.01.135



LR0143 SHOWN

LOCATING RING OPTIONS		
LOCATING RING #	øD	USED WITH
LR0143	101.36	INLET EXTENSIONS IE11xxx, OR IE12xxx (FOR "H" ≥ 50.00mm)
LR0144	109.77	
LR0145	99.77	

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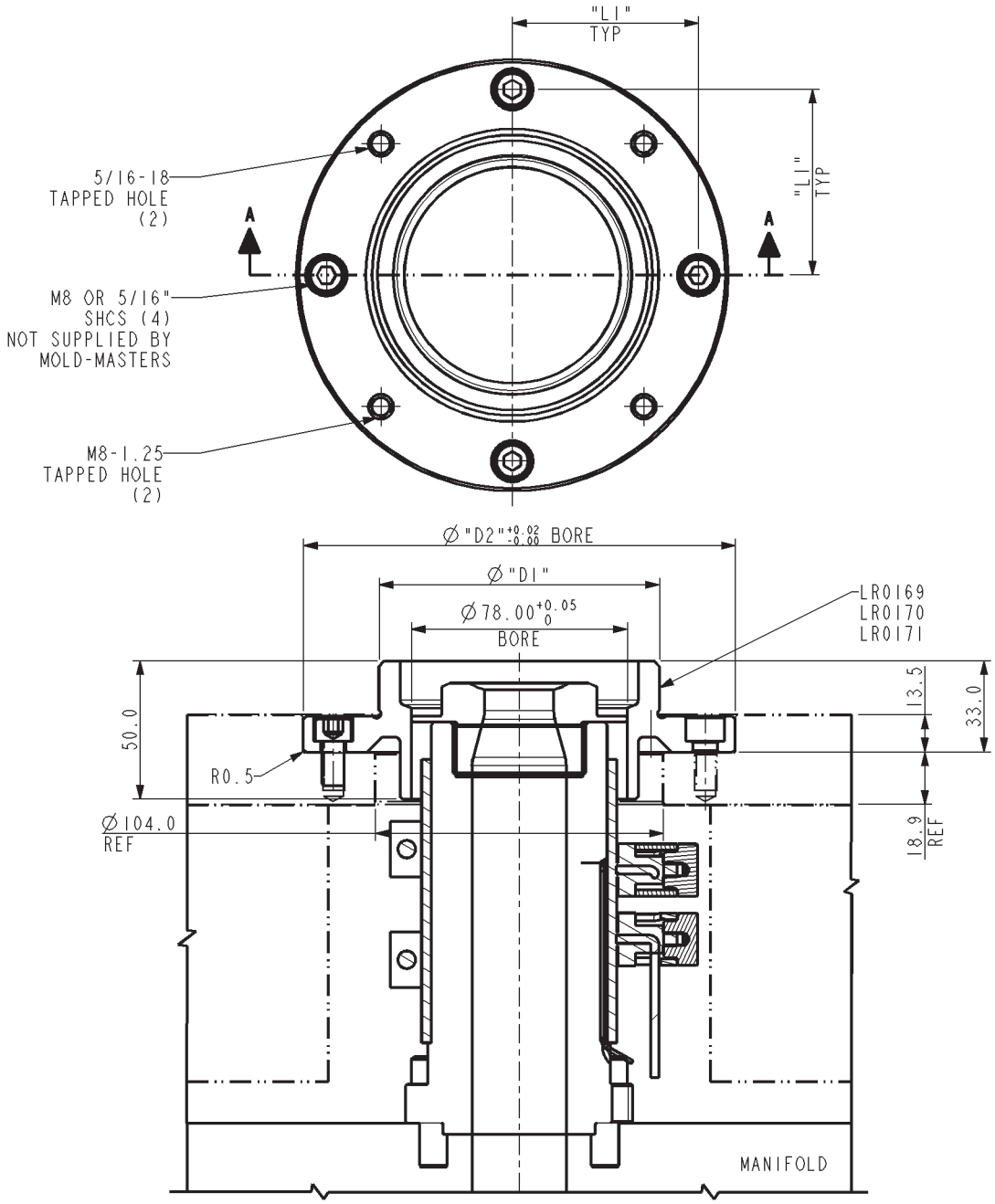

LOCATING RING OPTIONS				
LOCATING RING #	" D I"	" D2 "	" LI "	USED WITH
LR0169	Ø101.34	Ø156.02	67.2	INLET EXTENSIONS IE29xxx, IE30xxx, IE31xxx OR IE33xxx
LR0170	Ø109.75	Ø156.02	67.2	
LR0171	Ø126.75	Ø165.02	72.8	

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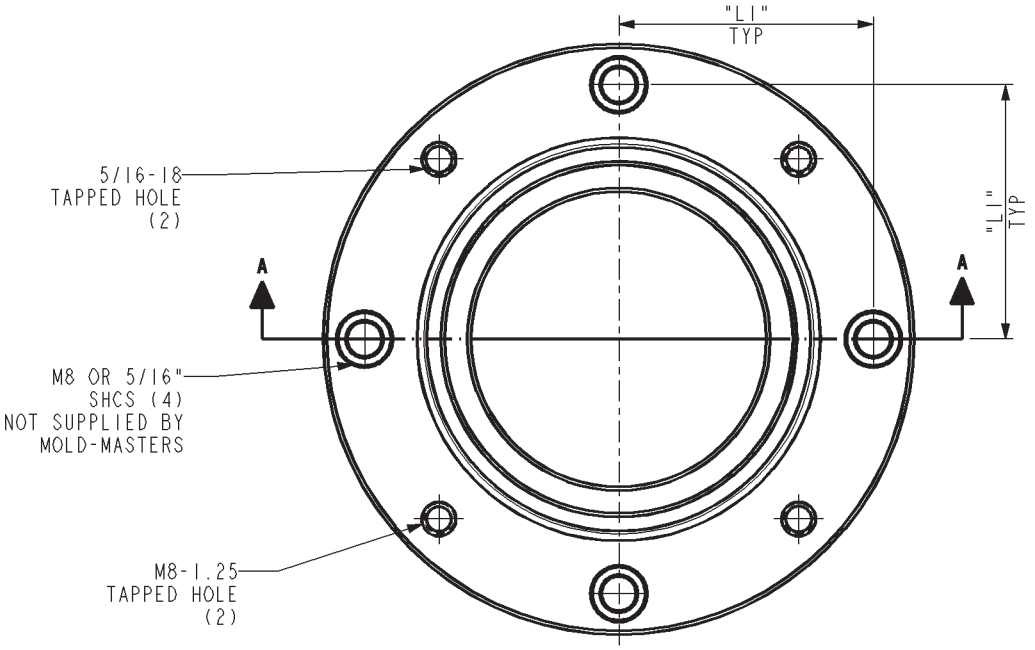

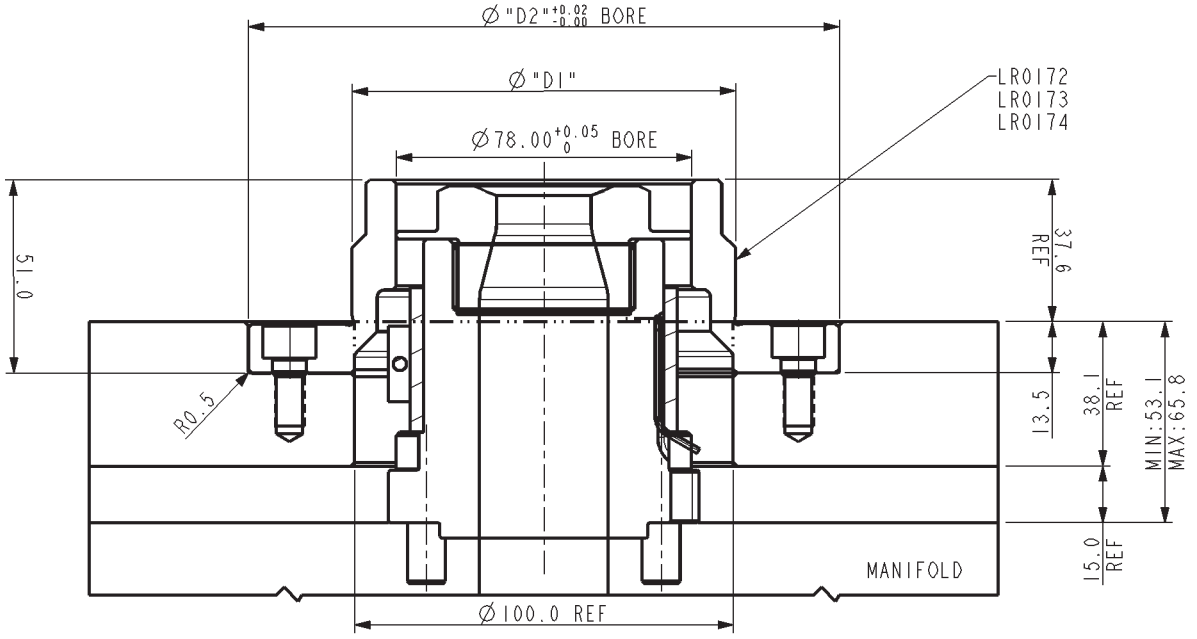

LOCATING RING OPTIONS				
LOCATING RING #	" D I"	" D2 "	" LI "	USED WITH
LR0172	Ø101.34	Ø156.02	67.2	INLET EXTENSIONS IE29075, IE30075, IE31075 OR IE33075
LR0173	Ø109.75	Ø156.02	67.2	
LR0174	Ø126.75	Ø165.02	72.8	

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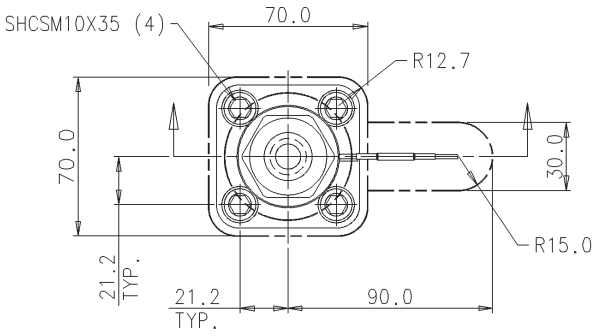
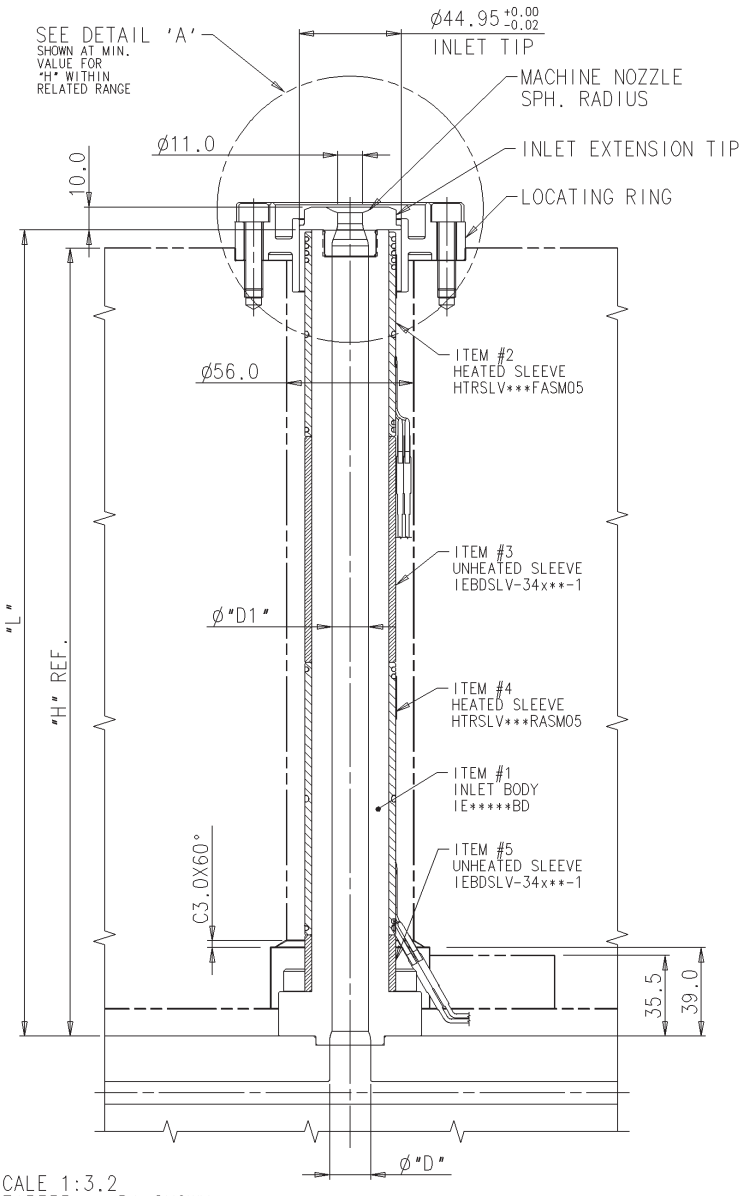
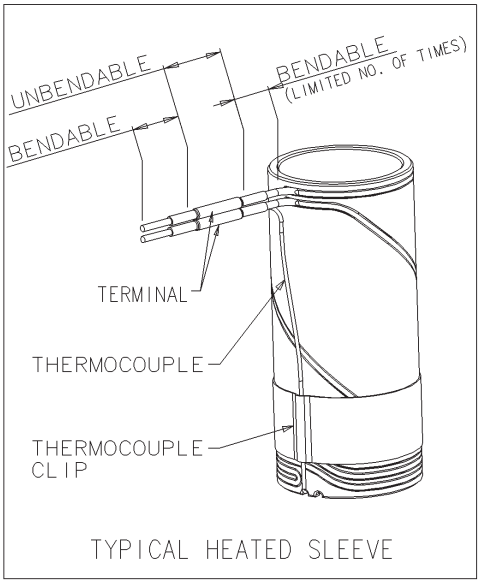
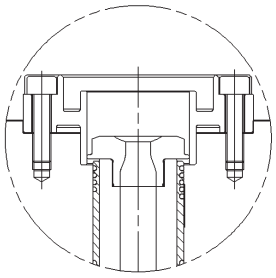




SCALE 1:3.2
IE15355xxxxP1 SHOWN
SEE PG. 09.01.125 FOR AVAILABLE LENGTHS & RELATED COMPONENTS



TYPICAL HEATED SLEEVE



DETAIL 'A'
SHOWN AT MAX. VALUE FOR "H" WITHIN RELATED RANGE

LOCATING RINGS
09.01.050
09.01.055

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PACKAGE COMPONENTS FOR:
IE13xxx****P1
IE14xxx****P1
IE15xxx****P1

PACKAGE SELECTION CRITERIAS			OTHER INFORMATION				
INLET EXIT RUNNER DIAMETER "D" mm	MANIFOLD TO TOP OF CLAMP PLATE "H" mm	INLET TIP (SEE OPTIONS)	PACKAGE NAME	INLET HEIGHT "L" mm	MAIN RUNNER DIAMETER "D1" mm	**TOTAL POWER WATTAGE AT 220V (W)	NUMBER OF ZONES
11.0	50.00 - 71.99	IE13TP****	IE13080xxxxP1	80.0	11.0	525	1
11.0	72.00 - 96.99		IE13080xxxxP1	80.0	11.0	525	1
11.0	97.00 - 121.99		IE13105xxxxP1	105.0	11.0	525	1
11.0	122.00 - 146.99		IE13130xxxxP1	130.0	11.0	525	1
11.0	147.00 - 171.99		IE13155xxxxP1	155.0	11.0	525	1
11.0	172.00 - 196.99		IE13180xxxxP1	180.0	11.0	825	2
11.0	197.00 - 221.99		IE13205xxxxP1	205.0	11.0	825	2
11.0	222.00 - 246.99		IE13230xxxxP1	230.0	11.0	900	2
11.0	247.00 - 271.99		IE13255xxxxP1	255.0	11.0	900	2
11.0	272.00 - 296.99		IE13280xxxxP1	280.0	11.0	900	2
11.0	297.00 - 321.99		IE13305xxxxP1	305.0	11.0	900	2
11.0	322.00 - 346.99		IE13330xxxxP1	330.0	11.0	900	2
11.0	347.00 - 371.99		IE13355xxxxP1	355.0	11.0	900	2
16.0	50.00 - 71.99	IE14TP****	IE14080xxxxP1	80.0	16.0	525	1
16.0	72.00 - 96.99		IE14080xxxxP1	80.0	16.0	525	1
16.0	97.00 - 121.99		IE14105xxxxP1	105.0	16.0	525	1
16.0	122.00 - 146.99		IE14130xxxxP1	130.0	16.0	525	1
16.0	147.00 - 171.99		IE14155xxxxP1	155.0	16.0	525	1
16.0	172.00 - 196.99		IE14180xxxxP1	180.0	16.0	825	2
16.0	197.00 - 221.99		IE14205xxxxP1	205.0	16.0	825	2
16.0	222.00 - 246.99		IE14230xxxxP1	230.0	16.0	900	2
16.0	247.00 - 271.99		IE14255xxxxP1	255.0	16.0	900	2
16.0	272.00 - 296.99		IE14280xxxxP1	280.0	16.0	900	2
16.0	297.00 - 321.99		IE14305xxxxP1	305.0	16.0	900	2
16.0	322.00 - 346.99		IE14330xxxxP1	330.0	16.0	900	2
16.0	347.00 - 371.99		IE14355xxxxP1	355.0	16.0	900	2
18.0	50.00 - 71.99	IE14TP****	IE15080xxxxP1	80.0	16.0	525	1
18.0	72.00 - 96.99		IE15080xxxxP1	80.0	16.0	525	1
18.0	97.00 - 121.99		IE15105xxxxP1	105.0	16.0	525	1
18.0	122.00 - 146.99		IE15130xxxxP1	130.0	16.0	525	1
18.0	147.00 - 171.99		IE15155xxxxP1	155.0	16.0	525	1
18.0	172.00 - 196.99		IE15180xxxxP1	180.0	16.0	825	2
18.0	197.00 - 221.99		IE15205xxxxP1	205.0	16.0	825	2
18.0	222.00 - 246.99		IE15230xxxxP1	230.0	16.0	900	2
18.0	247.00 - 271.99		IE15255xxxxP1	255.0	16.0	900	2
18.0	272.00 - 296.99		IE15280xxxxP1	280.0	16.0	900	2
18.0	297.00 - 321.99		IE15305xxxxP1	305.0	16.0	900	2
18.0	322.00 - 346.99		IE15330xxxxP1	330.0	16.0	900	2
18.0	347.00 - 371.99		IE15355xxxxP1	355.0	16.0	900	2

INLET TIP SPH. RADIUS OPTIONS:

**** = MACHINE NOZZLE SPHERICAL RADIUS
= BL (FOR 0.0 R)
= .500 (FOR 1/2" R)
= .750 (FOR 3/4" R)
= 15.5 (FOR 15.5mm R)
= 20.0 (FOR 20.0mm R)
= 25.0 (FOR 25.0mm R)
= 40.0 (FOR 40.0mm R)

LOCATING RING OPTIONS:

FOR "H" ≦ 71.99mm
USE LR0146, LR0147, LR0148 OR LR0149
(SEE PAGE. 09.01.050)

FOR "H" ≧ 72.00mm
USE LR0150, LR0151, LR0152 OR LR0153
(SEE PAGE. 09.01.055)

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PACKAGE COMPONENTS FOR:
IE13xxx****P1
IE14xxx****P1
IE15xxx****P1

MAIN ITEMS IN THE PACKAGE

PACKAGE NAME	ITEM #1	ITEM #2	ITEM #3	ITEM #4	ITEM #5
	INLET BODY	HEATED SLEEVE 'A'	UNHEATED SLEEVE 'A'	HEATED SLEEVE 'B'	UNHEATED SLEEVE 'B'
IE13080xxxxP1	IE13080BD	HTRSLV060FASM05	NA	NA	NA
IE13080xxxxP1	IE13080BD	HTRSLV060FASM05	NA	NA	NA
IE13105xxxxP1	IE13105BD	HTRSLV060FASM05	IEBDSLV-34X25-1	NA	NA
IE13130xxxxP1	IE13130BD	HTRSLV090FASM05	IEBDSLV-34X20-1	NA	NA
IE13155xxxxP1	IE13155BD	HTRSLV090FASM05	IEBDSLV-34X45-1	NA	NA
IE13180xxxxP1	IE13180BD	HTRSLV090FASM05	IEBDSLV-34X10-1	HTRSLV060RASM05	NA
IE13205xxxxP1	IE13205BD	HTRSLV090FASM05	IEBDSLV-34X35-1	HTRSLV060RASM05	NA
IE13230xxxxP1	IE13230BD	HTRSLV090FASM05	NA	HTRSLV120RASM05	NA
IE13255xxxxP1	IE13255BD	HTRSLV090FASM05	EBDSLV-34X24.5-1	HTRSLV120RASM05	NA
IE13280xxxxP1	IE13280BD	HTRSLV090FASM05	EBDSLV-34X49.5-1	HTRSLV120RASM05	NA
IE13305xxxxP1	IE13305BD	HTRSLV090FASM05	EBDSLV-34X74.5-1	HTRSLV120RASM05	NA
IE13330xxxxP1	IE13330BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	NA
IE13355xxxxP1	IE13355BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	IEBDSLV-34X25-1
IE14080xxxxP1	IE14080BD	HTRSLV060FASM05	NA	NA	NA
IE14080xxxxP1	IE14080BD	HTRSLV060FASM05	NA	NA	NA
IE14105xxxxP1	IE14105BD	HTRSLV060FASM05	IEBDSLV-34X25-1	NA	NA
IE14130xxxxP1	IE14130BD	HTRSLV090FASM05	IEBDSLV-34X20-1	NA	NA
IE14155xxxxP1	IE14155BD	HTRSLV090FASM05	IEBDSLV-34X45-1	NA	NA
IE14180xxxxP1	IE14180BD	HTRSLV090FASM05	IEBDSLV-34X10-1	HTRSLV060RASM05	NA
IE14205xxxxP1	IE14205BD	HTRSLV090FASM05	IEBDSLV-34X35-1	HTRSLV060RASM05	NA
IE14230xxxxP1	IE14230BD	HTRSLV090FASM05	NA	HTRSLV120RASM05	NA
IE14255xxxxP1	IE14255BD	HTRSLV090FASM05	EBDSLV-34X24.5-1	HTRSLV120RASM05	NA
IE14280xxxxP1	IE14280BD	HTRSLV090FASM05	EBDSLV-34X49.5-1	HTRSLV120RASM05	NA
IE14305xxxxP1	IE14305BD	HTRSLV090FASM05	EBDSLV-34X74.5-1	HTRSLV120RASM05	NA
IE14330xxxxP1	IE14330BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	NA
IE14355xxxxP1	IE14355BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	IEBDSLV-34X25-1
IE15080xxxxP1	IE15080BD	HTRSLV060FASM05	NA	NA	NA
IE15080xxxxP1	IE15080BD	HTRSLV060FASM05	NA	NA	NA
IE15105xxxxP1	IE15105BD	HTRSLV060FASM05	IEBDSLV-34X25-1	NA	NA
IE15130xxxxP1	IE15130BD	HTRSLV090FASM05	IEBDSLV-34X20-1	NA	NA
IE15155xxxxP1	IE15155BD	HTRSLV090FASM05	IEBDSLV-34X45-1	NA	NA
IE15180xxxxP1	IE15180BD	HTRSLV090FASM05	IEBDSLV-34X10-1	HTRSLV060RASM05	NA
IE15205xxxxP1	IE15205BD	HTRSLV090FASM05	IEBDSLV-34X35-1	HTRSLV060RASM05	NA
IE15230xxxxP1	IE15230BD	HTRSLV090FASM05	NA	HTRSLV120RASM05	NA
IE15255xxxxP1	IE15255BD	HTRSLV090FASM05	EBDSLV-34X24.5-1	HTRSLV120RASM05	NA
IE15280xxxxP1	IE15280BD	HTRSLV090FASM05	EBDSLV-34X49.5-1	HTRSLV120RASM05	NA
IE15305xxxxP1	IE15305BD	HTRSLV090FASM05	EBDSLV-34X74.5-1	HTRSLV120RASM05	NA
IE15330xxxxP1	IE15330BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	NA
IE15355xxxxP1	IE15355BD	HTRSLV090FASM05	EBDSLV-34X99.5-1	HTRSLV120RASM05	IEBDSLV-34X25-1

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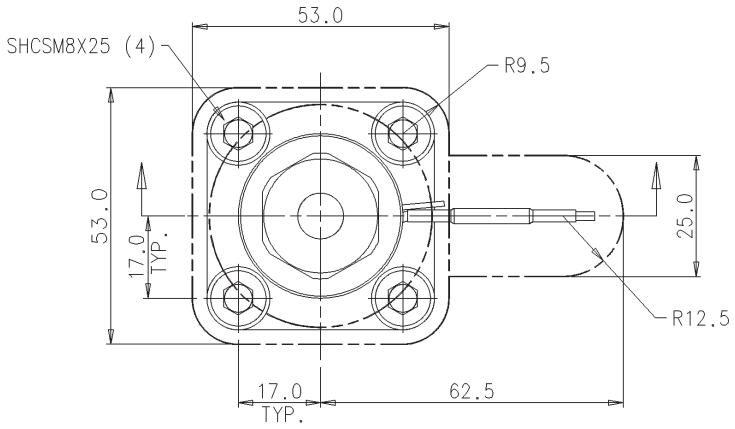

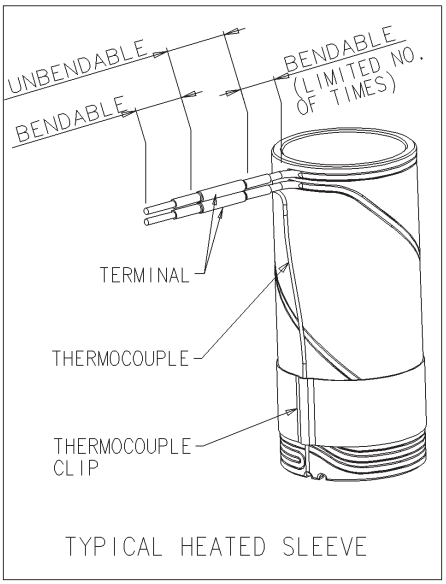

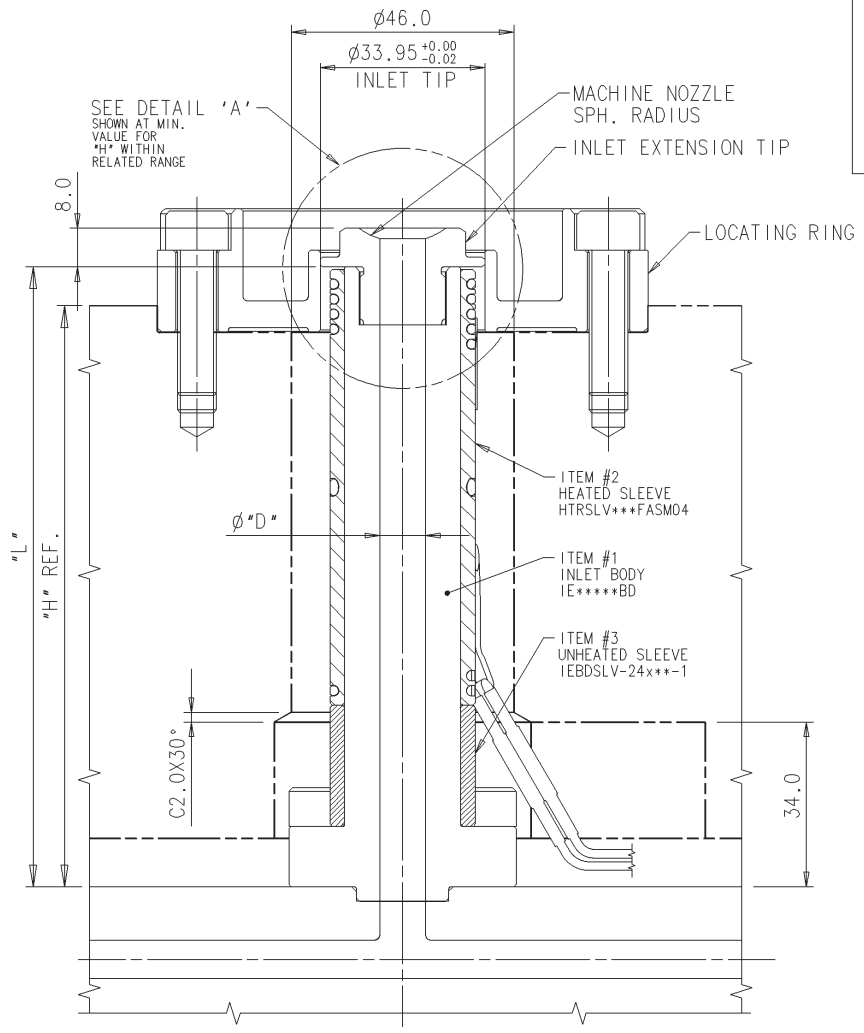

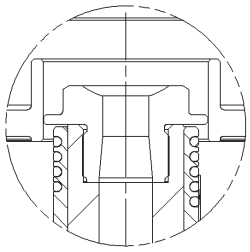

LOCATING RINGS
09.01.060
09.01.065

SCALE 1:1.5
IE11128xxxxP2 SHOWN
SEE PG. 09.01.135 FOR
AVAILABLE LENGTHS
& RELATED COMPONENTS

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PACKAGE COMPONENTS FOR:
IE11xxxxxxx*P2
IE12xxxxxxx*P2

PACKAGE SELECTION CRITERIAS				OTHER INFORMATION		MAIN ITEMS IN THE PACKAGE		
INLET MAIN RUNNER DIAMETER "D" mm	MANIFOLD TO TOP OF CLAMP PLATE "H" mm	INLET TIP (SEE OPTIONS)	PACKAGE NAME	INLET HEIGHT "L" mm	**TOTAL POWER WATTAGE AT 220V (W)	ITEM #1	ITEM #2	ITEM #3
						INLET BODY	HEATED SLEEVE	UNHEATED SLEEVE
9.5	38.00 - 49.99	IE08TP****	IE11058xxxxP2	58.0	300	IE11058BD	HTRSLV045FASM02	NA
9.5	50.00 - 59.99		IE11058xxxxP2	58.0	300	IE11058BD	HTRSLV045FASM02	NA
9.5	60.00 - 69.99		IE11068xxxxP2	68.0	300	IE11068BD	HTRSLV045FASM02	IEBDSLV-24X10-1
9.5	70.00 - 79.99		IE11078xxxxP2	78.0	300	IE11078BD	HTRSLV045FASM02	IEBDSLV-24X20-1
9.5	80.00 - 89.99		IE11088xxxxP2	88.0	525	IE11088BD	HTRSLV060FASM04	IEBDSLV-24X15-1
9.5	90.00 - 99.99		IE11098xxxxP2	98.0	525	IE11098BD	HTRSLV060FASM04	IEBDSLV-24X25-1
9.5	100.00 - 109.99		IE11108xxxxP2	108.0	525	IE11108BD	HTRSLV090FASM04	IEBDSLV-24X5-1
9.5	110.00 - 119.99		IE11118xxxxP2	118.0	525	IE11118BD	HTRSLV090FASM04	IEBDSLV-24X15-1
9.5	120.00 - 129.99		IE11128xxxxP2	128.0	525	IE11128BD	HTRSLV090FASM04	IEBDSLV-24X25-1
11.0	38.00 - 49.99	IE09TP****	IE12058xxxxP2	58.0	300	IE12058BD	HTRSLV045FASM02	NA
11.0	50.00 - 59.99		IE12058xxxxP2	58.0	300	IE12058BD	HTRSLV045FASM02	NA
11.0	60.00 - 69.99		IE12068xxxxP2	68.0	300	IE12068BD	HTRSLV045FASM02	IEBDSLV-24X10-1
11.0	70.00 - 79.99		IE12078xxxxP2	78.0	300	IE12078BD	HTRSLV045FASM02	IEBDSLV-24X20-1
11.0	80.00 - 89.99		IE12088xxxxP2	88.0	525	IE12088BD	HTRSLV060FASM04	IEBDSLV-24X15-1
11.0	90.00 - 99.99		IE12098xxxxP2	98.0	525	IE12098BD	HTRSLV060FASM04	IEBDSLV-24X25-1
11.0	100.00 - 109.99		IE12108xxxxP2	108.0	525	IE12108BD	HTRSLV090FASM04	IEBDSLV-24X5-1
11.0	110.00 - 119.99		IE12118xxxxP2	118.0	525	IE12118BD	HTRSLV090FASM04	IEBDSLV-24X15-1
11.0	120.00 - 129.99		IE12128xxxxP2	128.0	525	IE12128BD	HTRSLV090FASM04	IEBDSLV-24X25-1

INLET TIP SPH. RADIUS OPTIONS:

**** = MACHINE NOZZLE SPHERICAL RADIUS
= BL (FOR 0.0 R)
= .500 (FOR 1/2" R)
= .750 (FOR 3/4" R)
= 15.5 (FOR 15.5mm R)
= 20.0 (FOR 20.0mm R)
= 25.0 (FOR 25.0mm R)
= 40.0 (FOR 40.0mm R)

LOCATING RING OPTIONS:

FOR "H" ≦ 49.99mm
USE LR0140, LR0141 OR LR0142
(SEE PAGE. 09.01.060)

FOR "H" ≧ 50.00mm
USE LR0143, LR0144 OR LR0145
(SEE PAGE. 09.01.065)

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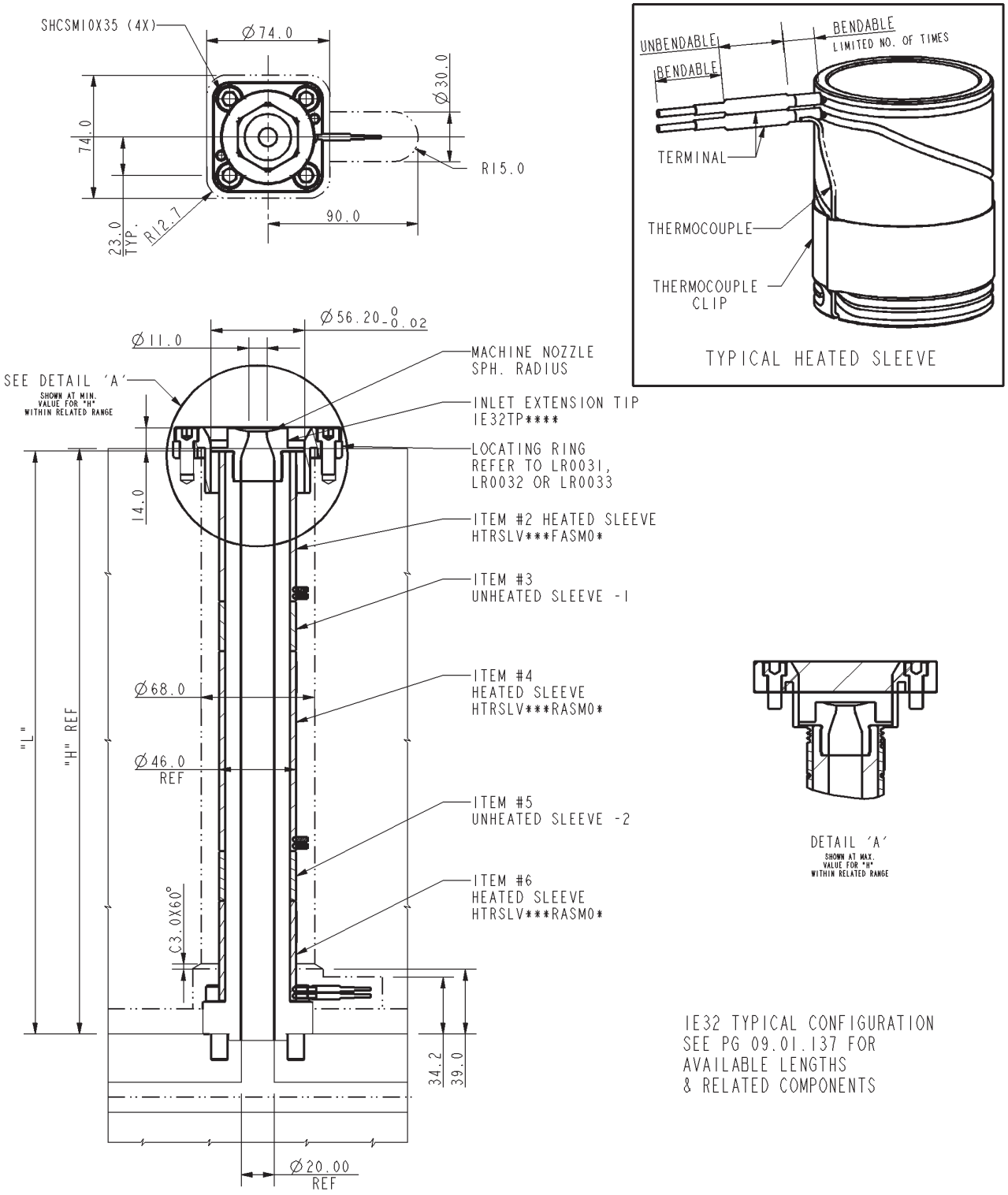

IE32 TYPICAL CONFIGURATION
SEE PG 09.01.137 FOR
AVAILABLE LENGTHS
& RELATED COMPONENTS

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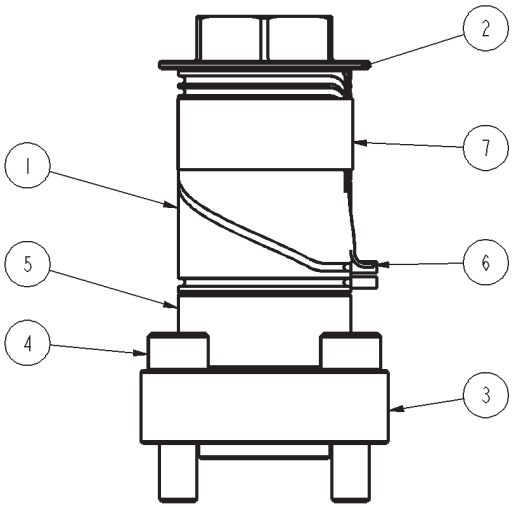
IE LENGTH "L" (mm)	BODY HEATER ITEM #6	UNHEATED SLEEVE - 2 ITEM #5	BODY HEATER ITEM #4	UNHEATED SLEEVE - 1 ITEM #3	FRONT HEATER ITEM #2
80.00	N/A	N/A	N/A	N/A	HTRSLV060FASM06
85.00-115.00	N/A	N/A	N/A	5.0-35.0	HTRSLV060FASM06
115.01-145.00	N/A	N/A	N/A	5.0-35.0	HTRSLV090FASM06
145.01-210.00	N/A	N/A	HTRSLV060RASM06	5.0-70.0	HTRSLV060FASM06
210.01-270.00	N/A	N/A	HTRSLVI20RASM06	10.0-70.0	HTRSLV060FASM06
270.01-300.00	N/A	N/A	HTRSLVI20RASM06	40.0-70.0	HTRSLV090FASM06
300.01-335.00	N/A	5.0-35.0	HTRSLVI20RASM06	65.0-70.0	HTRSLV090FASM06
335.01-360.00	HTRSLV060RASM06	22.5-35.0	HTRSLVI20RASM06	22.5-35.0	HTRSLV090FASM06

IE32 BOM EXAMPLE - 100.0mm LONG, WITH R40.0 SPH.

ITEM	QTY	COMPONENT	DESCRIPTION
1	1	HTRSLV060FASM06	FUSION G2-7 FRONT HEATER 60 ASSEMBLY
2	1	IE32TP40.0	INLET EXT. TIP w/20.0 RUNR 40.00 RAD
3	1	IEBDOSP	G2 7000 IE32 BODY,Ø20mm RUNNER
4	4	SHCSMI0X35	SOCKET HEAD CAP SCREW MI0X35
5	1	SLEEVESPCX	UNHEATED SLEEVE SPECIAL Ø39.0
6	1	TCGI.0XI50-1	UNGND T'COUPLE 1.0 L=150 +3m EXT
7	1	TCRC24	MSH NOZZLE T/C RETAINING CLIP



**** = MACHINE NOZZLE SPHERICAL RADIUS
= BL (FOR 0.0 R)
= .750 (FOR 3/4" R)
= 15.5 (FOR 15.5 R)
= 20.0 (FOR 20.0mm R)
= 25.0 (FOR 25.0mm R)
= 40.0 (FOR 40.0mm R)
= 45.0 (FOR 45.0mm R)

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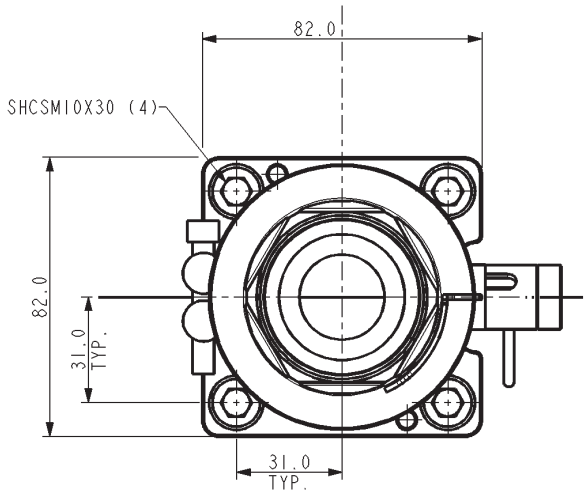
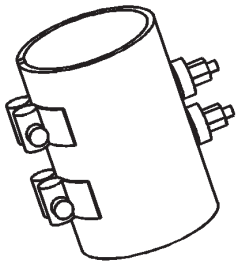
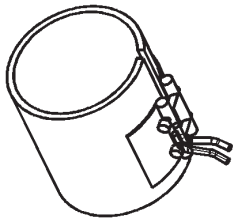


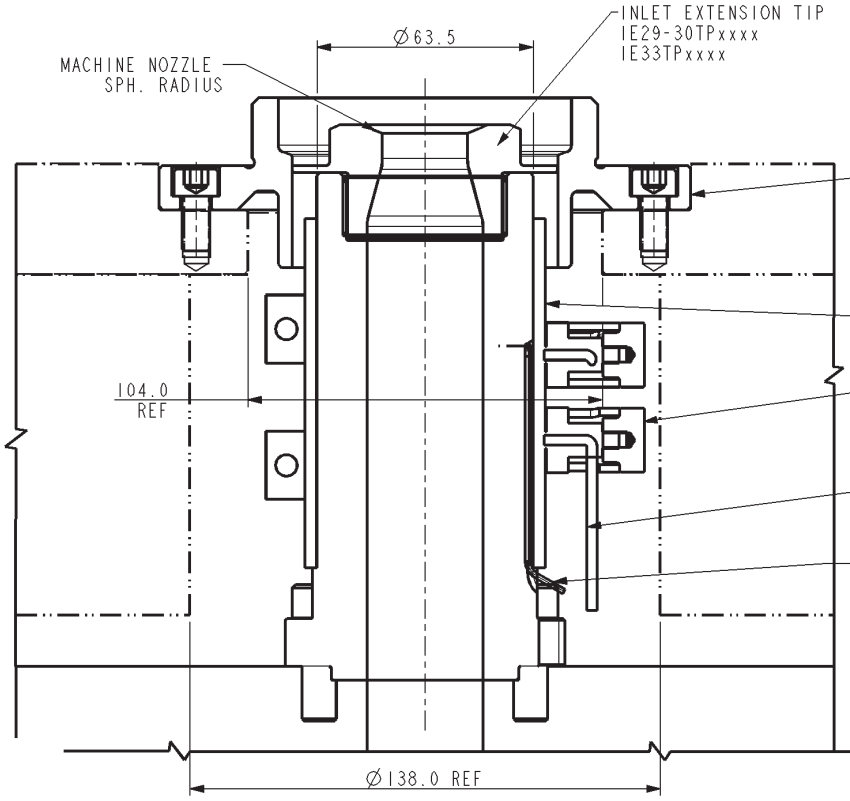
HB00XXX CONFIGURATION:



HB0002 & HB0011
COME WITH POST TERMINALS



HB0003A & HB0019A
WITH 3m FLEXIBLE LEADS



SEE PG.09.01.145
FOR AVAILABLE LENGTHS
& RELATED COMPONENTS

NOTE:
FOR IE**185****, IE**165****, IE**145****, RECOMMENDED CUTOUT Ø138mm
FOR IE**120****, IE**075****, RECOMMENDED CUTOUT Ø100mm

Revised June 2016. Updates available at **www.milacron.com**
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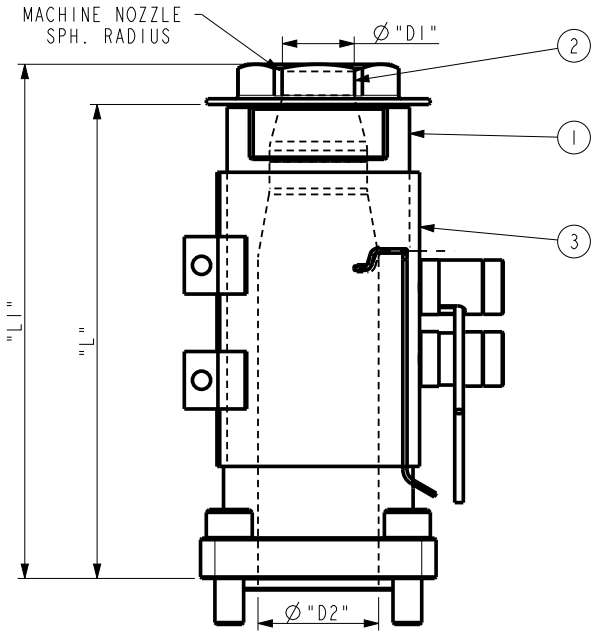
PACKAGE COMPONENTS FOR:
IE29xxx****P; IE30xxx****P
IE31xxx****P; IE33xxx****P

PACKAGE NAME	INLET RUNNER ∅"D1"	INLET RUNNER ∅"D2"	INLET LENGTH "L" (mm)	TOTAL LENGTH "LI" (mm)	INLET BODY "1"	INLET TIP "2"	HEATER BAND "3"	POWER WATTAGE AT 220V (W)
IE29075****P	25.00	28.00	75.0	89.0	IE29075BD	IE29TP****	SEE PART LIST	300
IE29120****P			120.0	134.0	IE29120BD		SEE PART LIST	590
IE29145****P			145.0	159.0	IE29145BD		SEE PART LIST	710
IE29165****P			165.0	179.0	IE29165BD		SEE PART LIST	710
IE29185****P			185.0	199.0	IE29185BD		SEE PART LIST	960
IE30075****P	25.00	34.00	75.0	89.0	IE30075BD	IE30TP****	SEE PART LIST	300
IE30120****P			120.0	134.0	IE30120BD		SEE PART LIST	590
IE30145****P			145.0	159.0	IE30145BD		SEE PART LIST	710
IE30165****P			165.0	179.0	IE30165BD		SEE PART LIST	710
IE30185****P			185.0	199.0	IE30185BD		SEE PART LIST	960
IE31075****P	25.00	42.00	75.0	89.0	IE31075BD	IE30TP****	SEE PART LIST	300
IE31120****P			120.0	134.0	IE31120BD		SEE PART LIST	590
IE31145****P			145.0	159.0	IE31145BD		SEE PART LIST	710
IE31165****P			165.0	179.0	IE31165BD		SEE PART LIST	710
IE31185****P			185.0	199.0	IE31185BD		SEE PART LIST	960
IE33075****P	11.00	24.00	75.0	89.0	IE33075BD	IE330TP****	SEE PART LIST	300
IE33120****P			120.0	134.0	IE33120BD		SEE PART LIST	590
IE33145****P			145.0	159.0	IE33145BD		SEE PART LIST	710
IE33165****P			165.0	179.0	IE33165BD		SEE PART LIST	710
IE33185****P			185.0	199.0	IE33185BD		SEE PART LIST	960



**** = MACHINE NOZZLE
SPHERICAL RADIUS
= BL (FOR 0.0 R)
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= 25.0 (FOR 25.0mm R)
= 40.0 (FOR 40.0mm R)
= 45.0 (FOR 45.0mm R)

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CERTIFICATE OF REGISTRATION

This is to certify that

Mold-Masters (2007) Limited

233 Armstrong Avenue, Georgetown, Ontario L7G 4X5 Canada

Refer to Attachment to Certificate of Registration dated December 2, 2015 for additional certified sites

operates a

Quality Management System

which complies with the requirements of

ISO 9001:2008

for the following scope of registration

Design and manufacture of processing systems (hot runners), temperature controllers, full mold or hot half solutions, PET systems, and related auxiliary components used in plastic injection molds.

Certificate No.:	CERT-0093205	Original Certification Date:	September 3, 1993
File No.:	002260	Current Certification Date:	December 20, 2015
Issue Date:	December 2, 2015	Certificate Expiry Date:	September 14, 2018

Heather Mahon
Acting Head of
Policy, Risk and Certification

ISO 9001

Registered by:
SAI Global Certification Services Pty Ltd, 680 George St, Level 37-38, Sydney, NSW, 2000, Australia with **QMI-SAI Canada Limited**, 20 Carlson Court, Suite 200, Toronto, Ontario M9W 7K6 Canada **(SAI GLOBAL).** This registration is subject to the **SAI Global** Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, **SAI Global** accepts responsibility only for proven negligence. This certificate remains the property of **SAI Global** and must be returned to them upon request.
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ZERTIFIKAT ■ CERTIFICATE ■ 認證證書 ■ СЕРТИФИКАТ ■ CERTIFICADO ■ CERTIFICAT

Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that

MILACRON®

Mold-Masters Europa GmbH
Neumattring 1, 76532 Baden-Baden
Germany

has established and applies
a Quality Management System for

Production and Sales of
Standard/ Custom Hot Runner Systems, Temperature Controllers,
Hot Halves, and Related Auxiliary Components
for Use in the Plastic Injection
Molding Process.

An audit was performed, Report No. **70045133**.

Proof has been furnished that the requirements
according to

ISO 9001:2008

are fulfilled. The certificate is valid from **2015-05-05** until **2018-05-04**.

Certificate Registration No. **12 100 28325 TMS**

Product Compliance Management
Munich, 2015-03-09

DAkkS
Deutsche
Akkreditierungsstelle
D-ZM-14143-01-03

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Ridlerstraße 65 • 80339 München • Germany
www.tuev-sued.de/certificate-validity-check

TÜV®

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CERTIFICATE OF REGISTRATION

兹证明

马斯特模具（昆山）有限公司

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运行了

质量管理体系

符合以下标准

ISO9001:2008

认证范围

设计、制造与加工热流道系统相关的产品，包括温控器、热半板、喷嘴与浇口技术

证书编号：QEC26152

颁发日期：2016 年 02 月 25 日　　初次认证：2007 年 02 月 05 日

截止日期：2018 年 09 月 14 日　　当前认证：2016 年 02 月 25 日

Heather Mahon
Acting Head of Policy, Risk and Certification

Certified System ISO 9001

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WWW.JAS-ANZ.ORG/REGISTER

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Mold Masters®

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