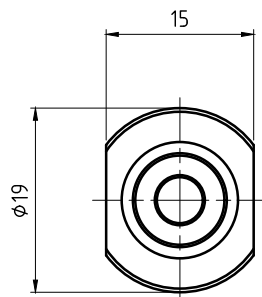


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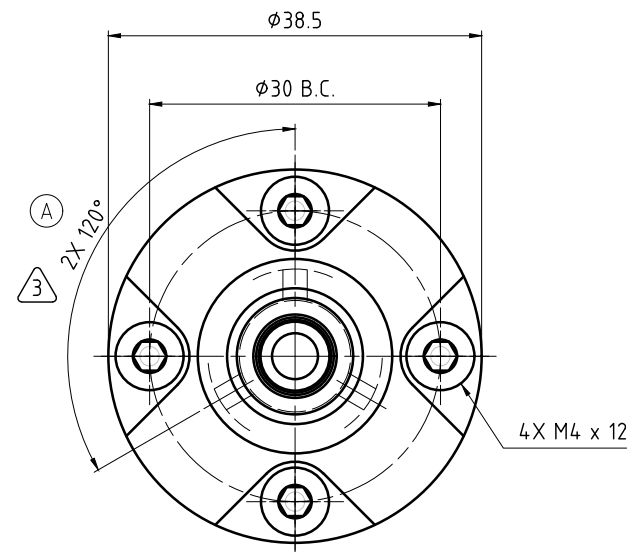
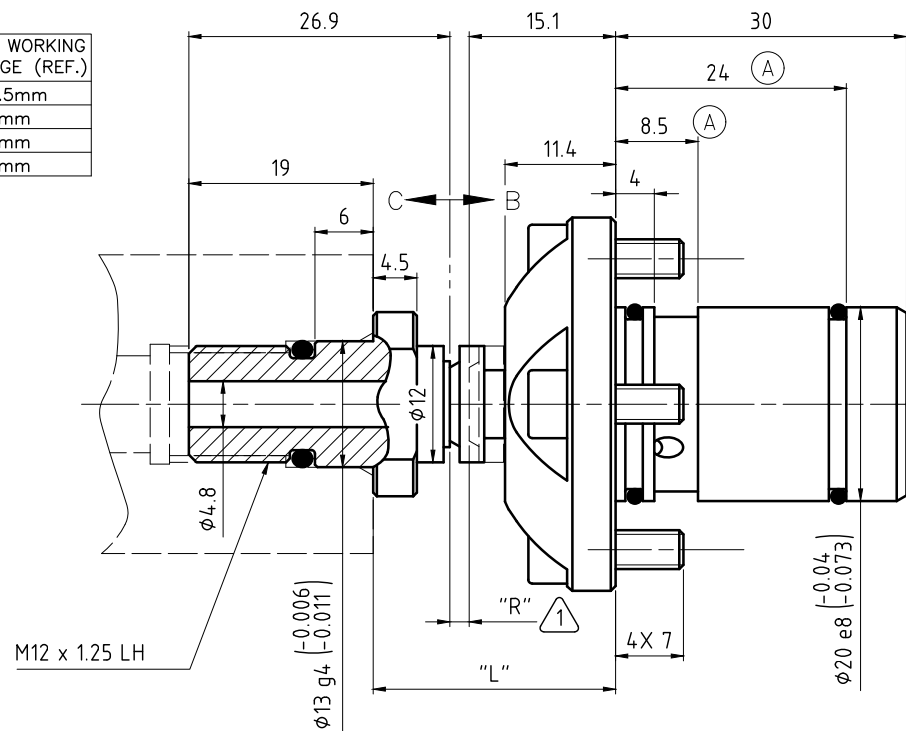
Ø20	e8	-0.04 -0.073	19.96 19.927
Ø20	H8	+0.033 0	20.033 20
Ø13	g4	-0.006 -0.011	12.994 12.989
Ø13	H4	+0.005 0	13.005 13
Dimen.	Fit		

- NOTES:
- 1 UNION TO OPERATE WITH FLOATING SEAL ASSEMBLY HEIGHT SET INSIDE INDICATED AREA.
  - 2 AIR WILL FUNCTION IN A CONTROLLED LEAKAGE CONDITION.
  - 3 ACTUATION PORTS "A" TO BE LOCATED AS SHOWN, IN-LINE WITH HOLES IN (A) UNION.

"L" MOUNTING DIM. ±0.25mm	"R" WORKING RANGE (REF.)
30mm	7.5mm
29mm	6mm
27mm	4mm
25mm	2mm



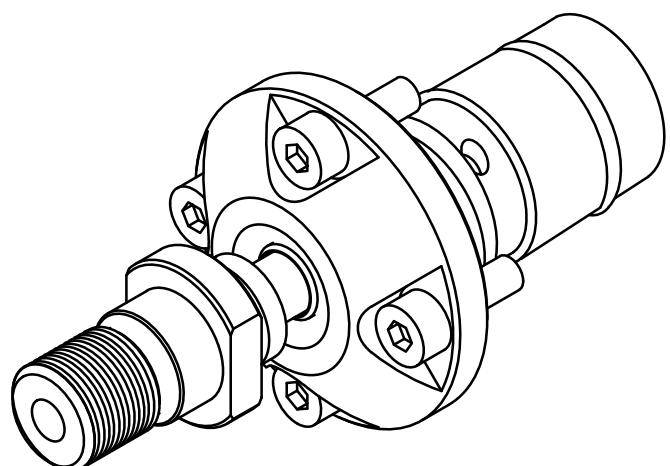
VIEW "C"



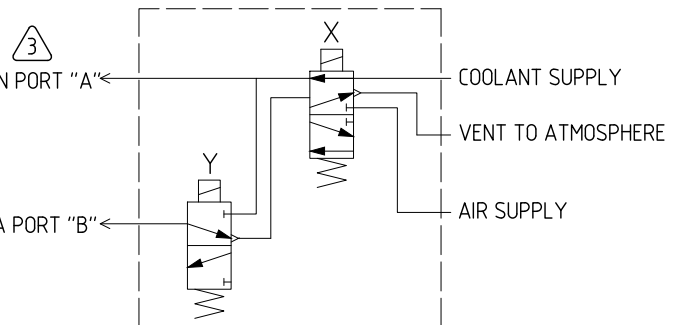
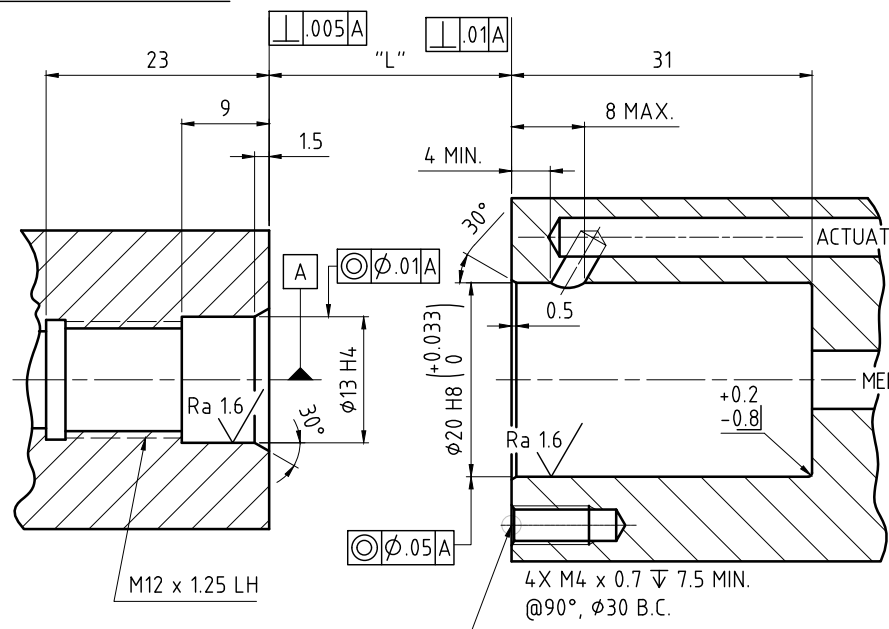
VIEW "B"

**NEW DEUBLIN TECHNOLOGY**

OPERATING DATA AND DIMENSIONS WILL BE FINALIZED AFTER EMPIRICAL TESTING OF FIRST ARTICLE.



CUSTOMER INTERFACE



OPERATING DATA (2)

MEDIA		COOLANT	MQL OR AIR
PRESSURE	MAXIMUM	140 bar	10 bar
	MINIMUM	5 bar	5 bar
FLOW RATE	MAXIMUM	24.3 L/min	19.6 NL/sec
	MINIMUM	3 L/min	6 NL/sec
TEMPERATURE	MAXIMUM	71 °C	71 °C
	MINIMUM	5 °C	5 °C
MAXIMUM SPEED		50000 min <sup>-1</sup>	50000 min <sup>-1</sup>
AXIAL FORCE		3.8 N/bar	
DRY RUN		YES	

MACHINE STATE AND MEDIA	UNION STATE	ACTUATION PORT "A"	ACTUATION PORT "B"	VALVE X	VALVE Y
1 UNPRESSURIZED SPINDLE EMPTY	SEALS OPEN TO AVOID DRY RUN	UNPRESSURIZED (VENT)	UNPRESSURIZED (VENT)	OFF	OFF
2 UNPRESSURIZED SPINDLE FULL OF COOLANT	SEALS FULLY CLOSED TO CONTAIN LEAKAGE	PRESSURIZED COOLANT OR MQL	UNPRESSURIZED (VENT)	ON	ON
3 PRESSURIZED DRY AIR	CONTROLLED LEAKAGE SEALS TO AVOID DRY RUN	UNPRESSURIZED (VENT)	PRESSURIZED AIR	OFF	ON
4 PRESSURIZED COOLANT OR MQL	SEALS FULLY CLOSED TO CONTAIN PRESSURE	PRESSURIZED COOLANT OR MQL	PRESSURIZED COOLANT OR MQL	ON	OFF



SCALE: 2:1  
MATERIAL:

REV	DESCRIPTION	DATE	LG
01	ISSUE	08/08	ECO

DATE: 06/05/08  
NAME: galindolm  
ENGR.  
APPD.

TITLE: INTERFACE CONTROL DRAWING FOR DEUBLIN BEARINGLESS UNION

UNLESS SPECIFICALLY TOLERANCED, ALL DIMENSIONS ARE CONSIDERED REFERENCE

NO. 1159-003-137  
SHEET A2