

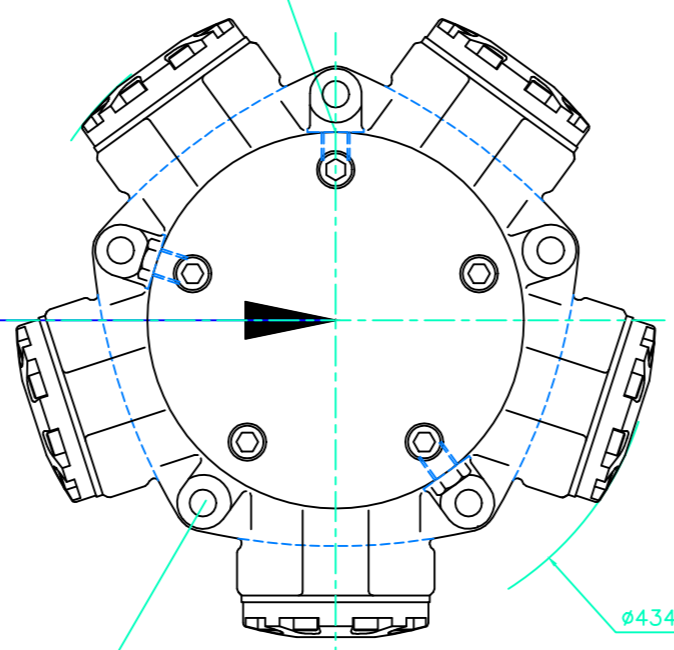
HMB045

VALVE HOUSINGS

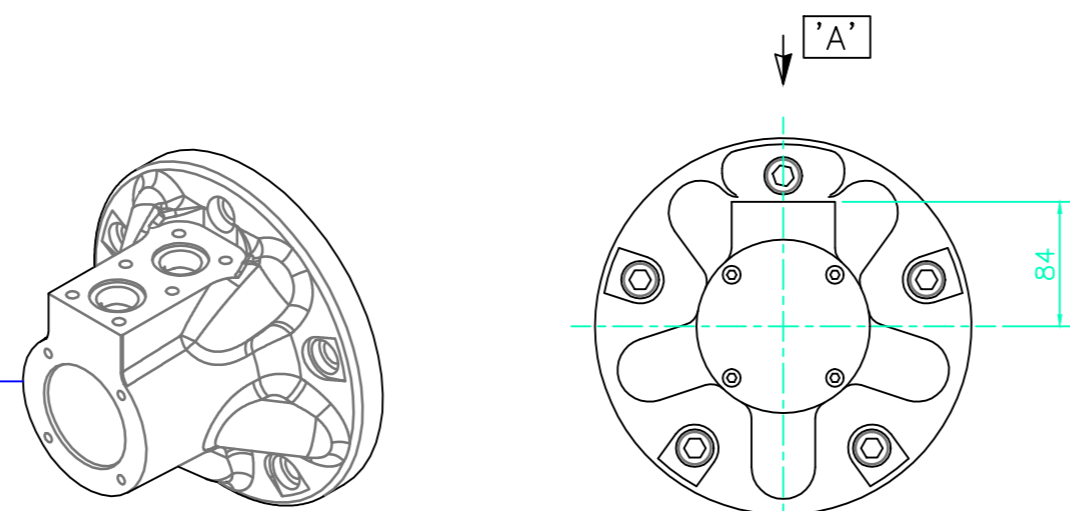
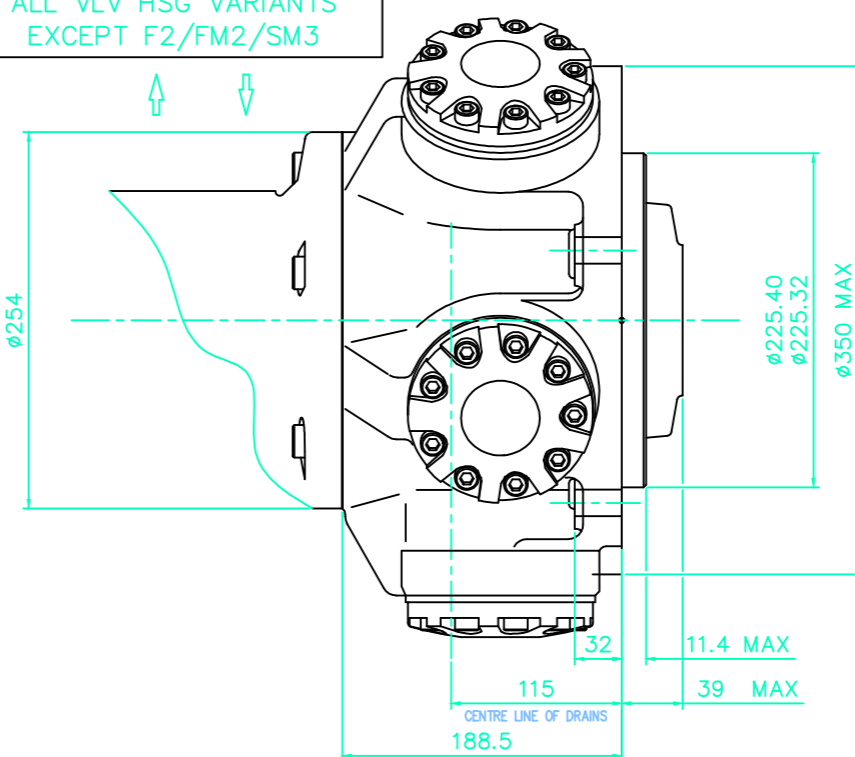
EXAMPLE FOR MODEL CODE -
HMB045/S/FM3/70

3/4"-16 UNF-2B DRAIN (CHOICE OF 3 POSITIONS)
(2 NORMALLY PLUGGED)
NOTE: - ENSURE ON INSTALLATION THAT DRAIN IS
TAKEN FROM ABOVE MOTOR CENTRELINE.
DO NOT EXCEED 12 DEPTH OF COUPLING
IN TO DRAIN PORT

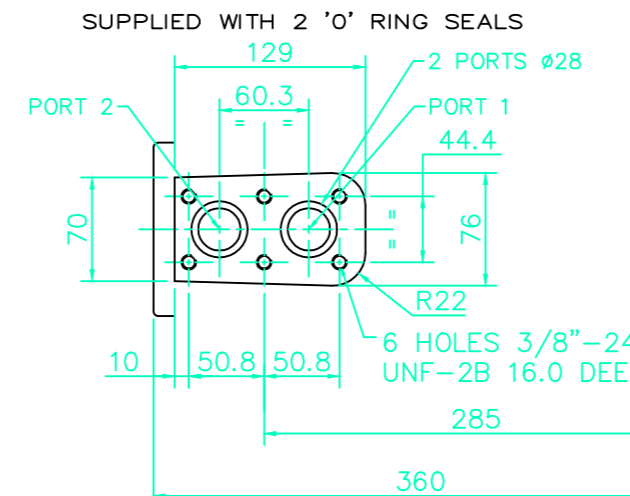
REVERSE PORT CONNECTIONS
FOR OPPOSITE DIRECTION OF
SHAFT ROTATION
FLOW DIRECTION FOR
ALL VLV HSG VARIANTS
EXCEPT F2/FM2/SM3



5 HOLES Ø18 EQUI-SPACED AS
SHOWN ON A 304.8 P.C.D. SPOTFACED
TO GIVE AN EFFECTIVE Ø38.
+0.15



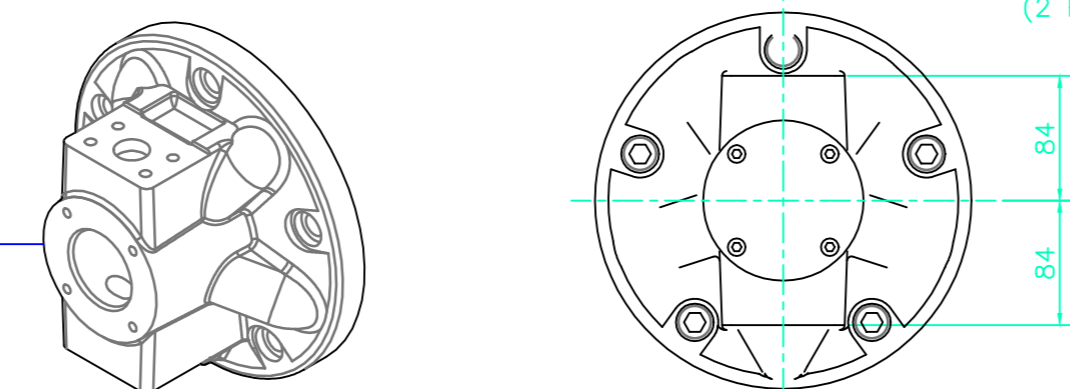
VIEWS ON ARROW 'A'



MOUNTING FACE

S03 -
3" VALVE HOUSING WITH
6-BOLT FLANGE

FLOW DIRECTIONS FOR
SHAFT ROTATION SHOWN.
REVERSE FLOW DIRECTIONS
FOR OPPOSITE ROTATION.

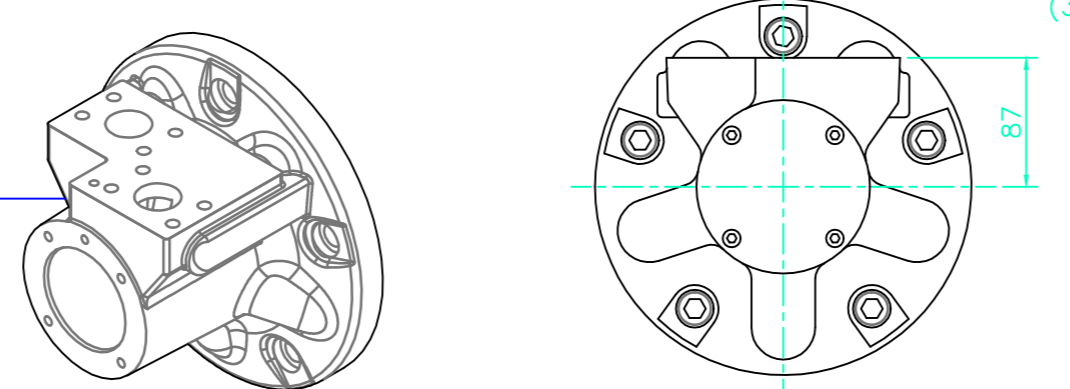


1" CODE 61
S.A.E. PORTS
(2 POSITIONS)

2x4 HOLES, SEE TABLE
FOR THREAD SIZES

F2/FM2 -
2 1/4" VALVE HOUSING WITH
1" SAE 4-BOLT FLANGES

PORT FLANGE BOLT TAPPING SIZE -
F2: 3/8"-16 UNC-2B X 22 FULL THREAD DEPTH
FM2: M10 X P1.5 X 22 FULL THREAD DEPTH

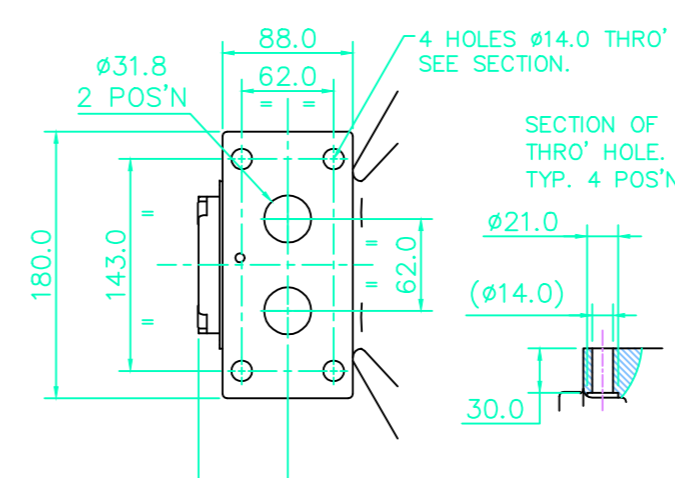
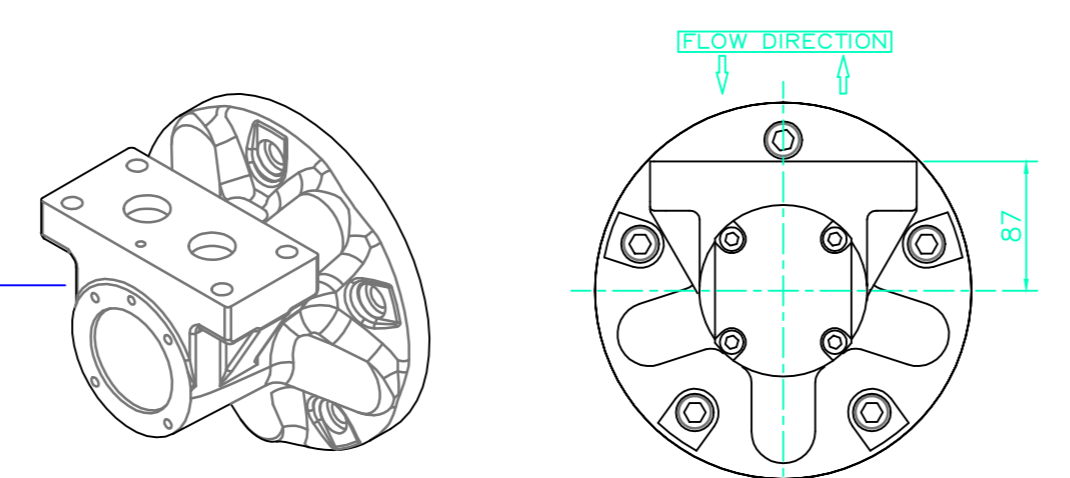


1 1/4" CODE 61
S.A.E. PORTS
(3000 SERIES)

8 HOLES, SEE TABLE
FOR THREAD SIZES

F3/FM3 -
3" VALVE HOUSING WITH
1 1/4" SAE 4-BOLT FLANGES

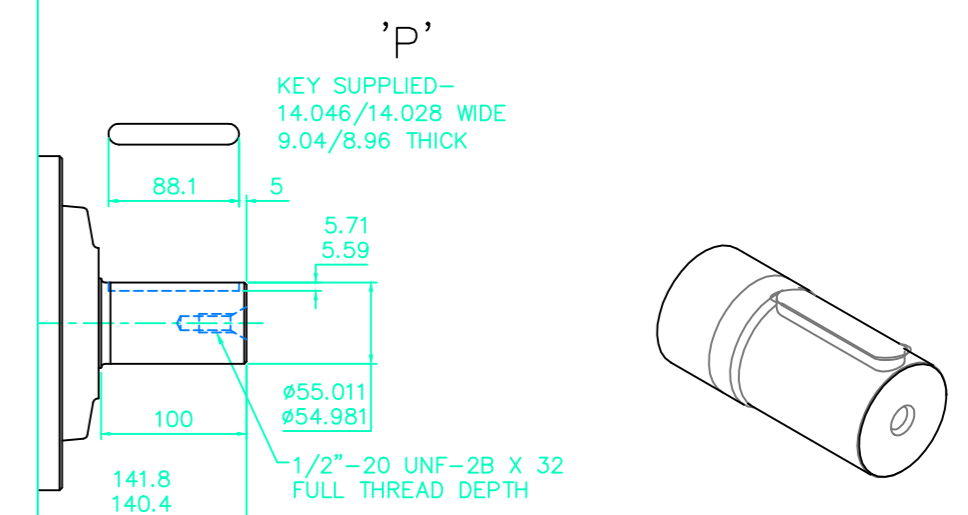
PORT FLANGE BOLT TAPPING SIZE -
F3: 7/16"-14 UNC-2B X 27 FULL THREAD DEPTH
FM3: M12 X P1.75 X 27 FULL THREAD DEPTH



SM3 -
3" VALVE HOUSING WITH 4 THRO' HOLES FOR
MOUNTING A MANIFOLD BOLTED FROM BENEATH.

SHAFTS

EXAMPLE FOR MODEL CODE -
HMB045/P/50- MONOBLOCK
HMB045/P/FM3/70- 2 PART BUILD



'P'

KEY SUPPLIED -
14.046/14.028 WIDE
9.04/8.96 THICK
5.71
5.59
#55.011
#54.981
1/2"-20 UNF-2B X 32
FULL THREAD DEPTH

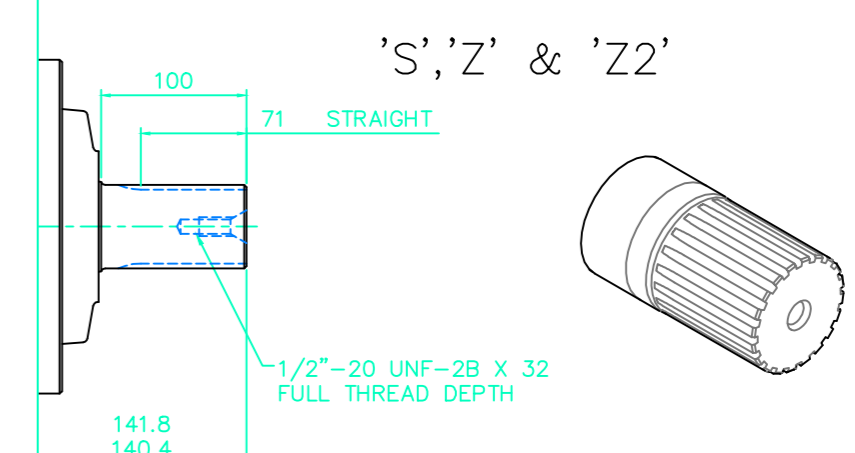
SPLINE DATA

'S'
TO BS 3550 (ANSI B92.1 CLASS 5)
FLAT ROOT SIDE FIT, CLASS 1
PRESSURE ANGLE 30°
NUMBER OF TEETH 17
PITCH 8/16
MAJOR DIAMETER 56.41/56.29
FORM DIAMETER 50.703
MINOR DIAMETER 50.06/49.60
PIN DIAMETER 6.096
DIAMETER OVER PINS 62.984/62.931

'Z'
DIN 5480 W55 x 3 x 17 x 7h

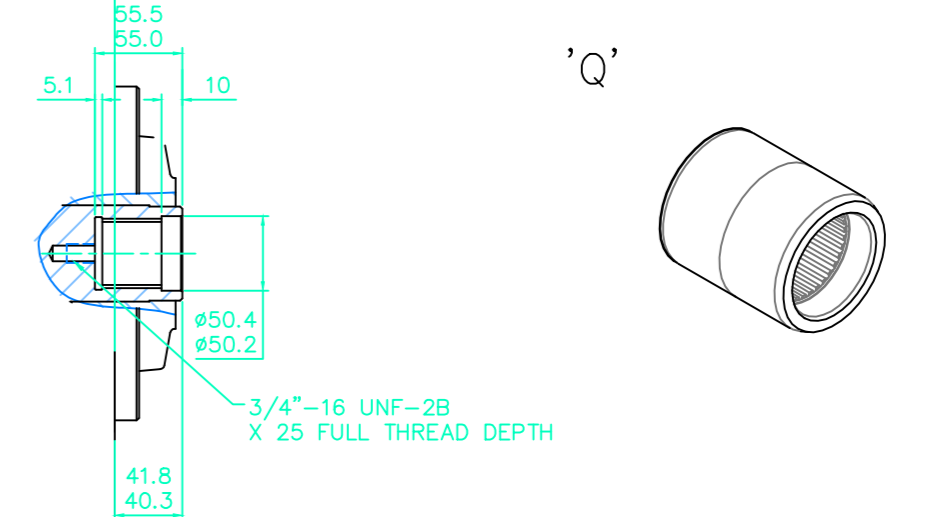
'Z2'
DIN 5480 W60 x 3 x 18 x 7h

'Q'
INTERNAL SPLINE TO BS 3550
FLAT ROOT SIDE FIT
PRESSURE ANGLE 30°
NUMBER OF TEETH 21
PITCH 12/24
MAJOR DIAMETER 46.566/46.896
FORM DIAMETER 46.144
MINOR DIAMETER 42.334/42.461
PIN DIAMETER 3.658
PIN FLATTENED TO 3.556
DIM'N BETWEEN PINS 39.169/39.103



'S', 'Z' & 'Z2'

100
71 STRAIGHT
1/2"-20 UNF-2B X 32
FULL THREAD DEPTH



'Q'

55.5
55.0
10
#50.4
#50.2
3/4"-16 UNF-2B
X 25 FULL THREAD DEPTH