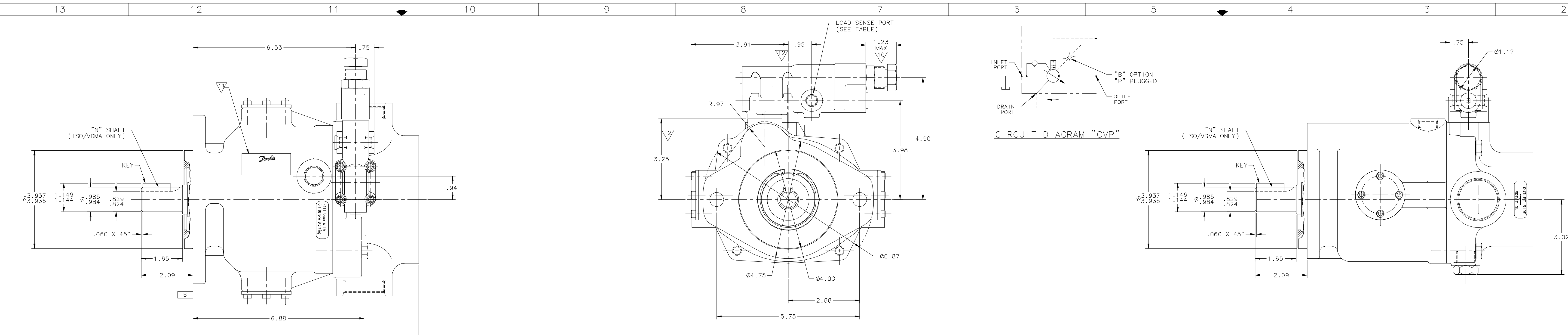
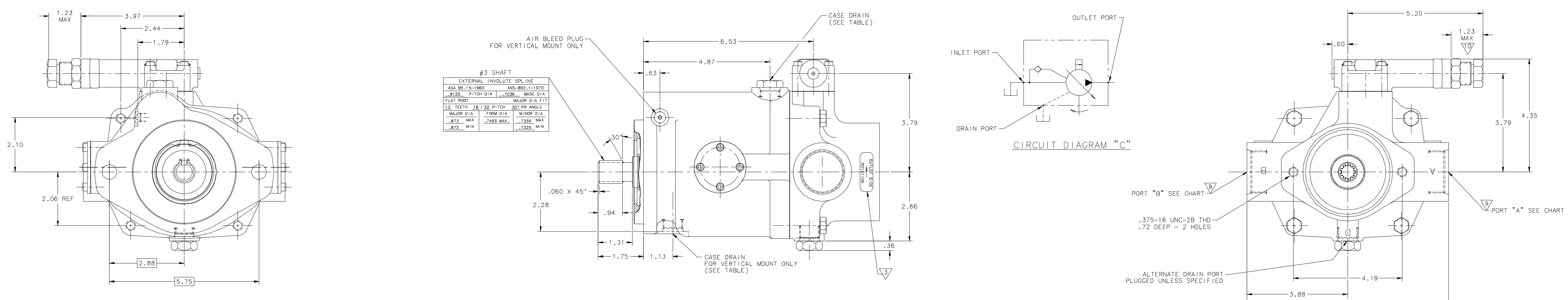


"CVP" CONTROL WITH LOAD SENSING AND PRESSURE LIMITER

VDMA MOUNT W/ N SHAFT



#3 SHAFT

EXTERNAL INVOLUTE SPLINE		
ASA B5.15-1960		ANS-B92.1-1970
.8125 PITCH DIA		.7036 BASE DIA
FLAT ROOT		MAJOR DIA FIT
13 TEETH 16 / 32 PITCH 30° PR ANGLE		
MAJOR DIA	FORM DIA	MINOR DIA
.873 MAX	.7493 MAX.	.7335 MAX
.872 MIN		.7225 MIN

"C" PRESSURE COMPENSATOR CONTROL

(VERTICAL MOUNT)

	PORTS (INLET & OUTLET)	DRAIN PORT	LOAD SENSE/ REMOTE CONTROL PORT
METRIC	M42 X 1.5 ISO 6149 CONN. O-RING BOSS	M18 X 1.5 ISO 6149 O-RING BOSS CONN.	M12 X 1.5 ISO 6149 O-RING BOSS CONN.
INCH	1.625- 12 UN-2B STR THD O-RING BOSS CONN.	.750- 16 UNF-2B STR THD O-RING BOSS CONN.	.438 - 20 UNF-2B STR THD O-RING BOSS CONN.

INCH

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

G.T. CODE NO.

DIST. CODES

UNLESS OTHERWISE SPECIFIED
INTERPRET PER VS 1-3-3-1
ANGULAR DIMENSIONS ± 2°
SURFACE ROUGHNESS 3.2 μm (125 μIN)
TOLERANCES ON DECIMALS

	1 PLACE	2 PLACE	3 PLACE
mm	±0.8	±0.25	—
INCH	—	± .03	±.010

REMOVE BURRS
BREAK EDGES 0.25 mm (.010 IN) MAX.

THIRD ANGLE PROJECTION

MATERIAL

HEAT TREATMENT

COATING/PLATING

FIRST USED ON PVQ 20/32-***-A*

AEL 0-02

REF 02-102772

DWN	R. BRADY	10SEP96
CHK	D. TELFORD	29APR97
MFG REV		
RLSE T.O.		
RLSE PROTO		
RLSE PROD.	R. N. ADRIAN	30APR97
ENGRG APPVL	JOHN L. JONES	2MAY97

Danfoss

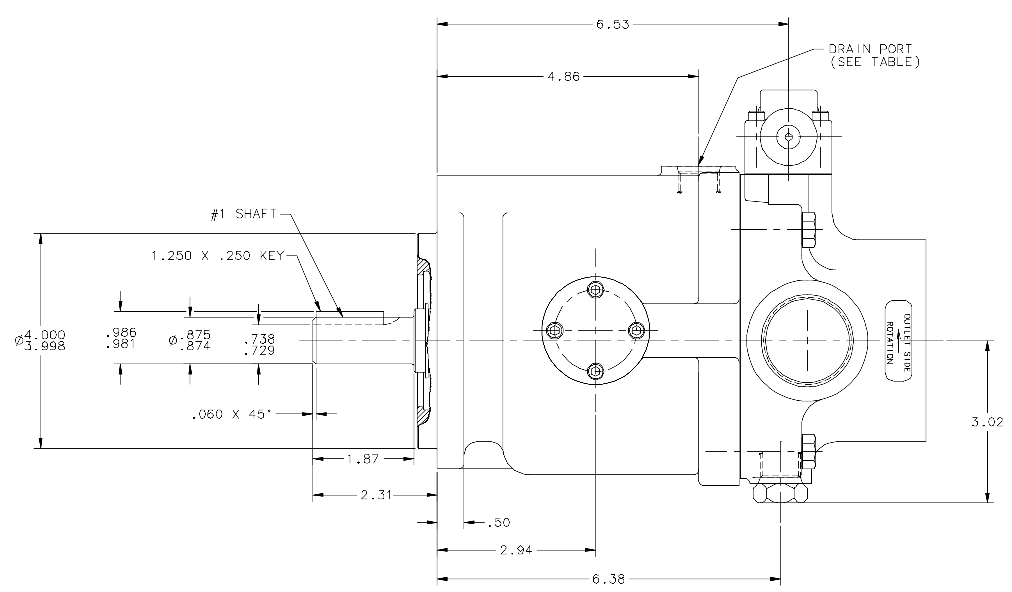
TITLE INSTALLATION
VARIABLE DISPLACEMENT PISTON PUMP WITH THRU DRIVE AND CONTROLS

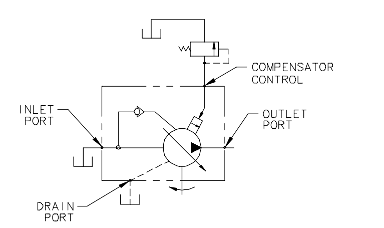
SIZE J | CAGE NO. | DRAWING NO. 02-334204 | REV

SCALE 1/1 | WT | ACTL CALC | SHEET 1 OF 2

DWG NO. 02-334204 SH 1 REV

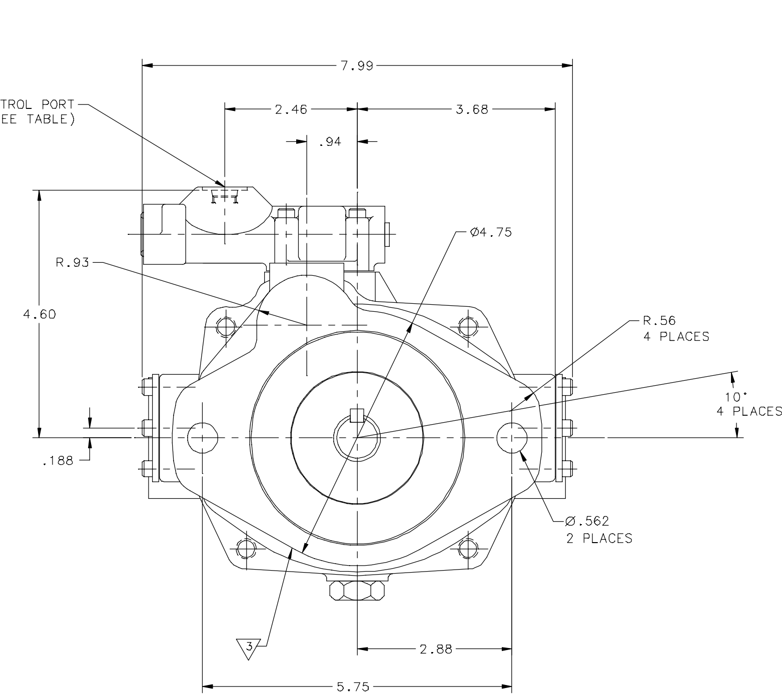
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

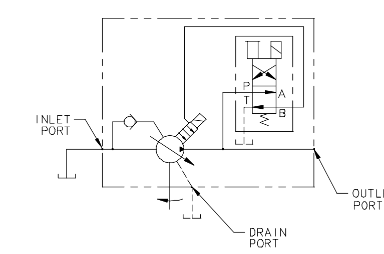




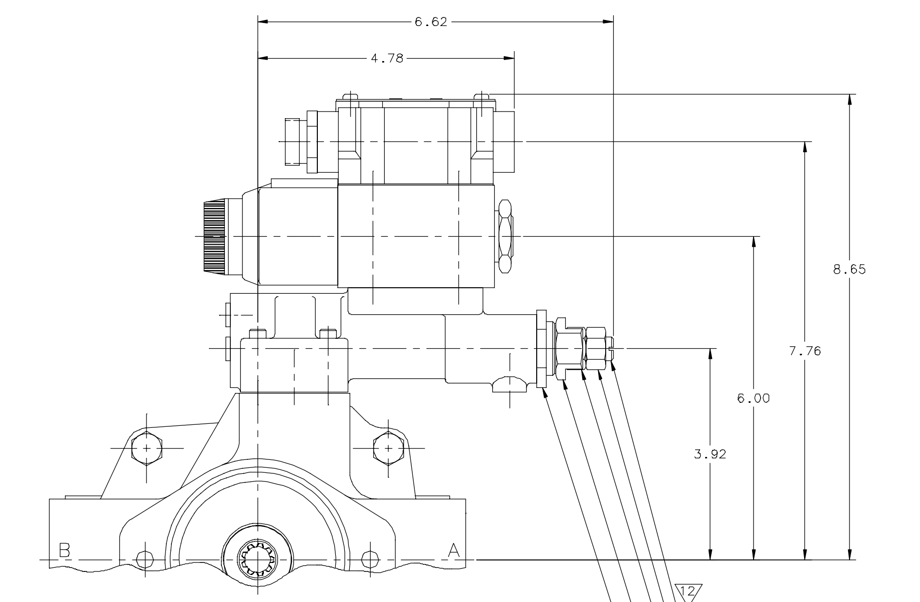
CIRCUIT DIAGRAM "CG"

"CG" REMOTE CONTROL

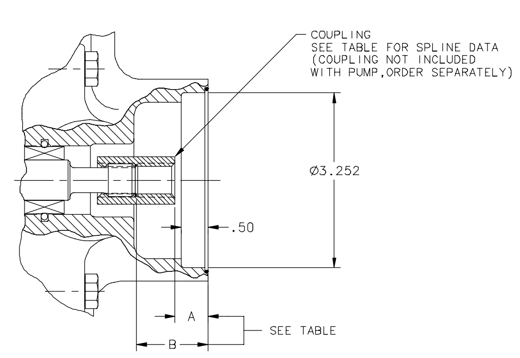




CIRCUIT DIAGRAM "CD"



"CD" DUAL RANGE ELECTRIC COMPENSATOR



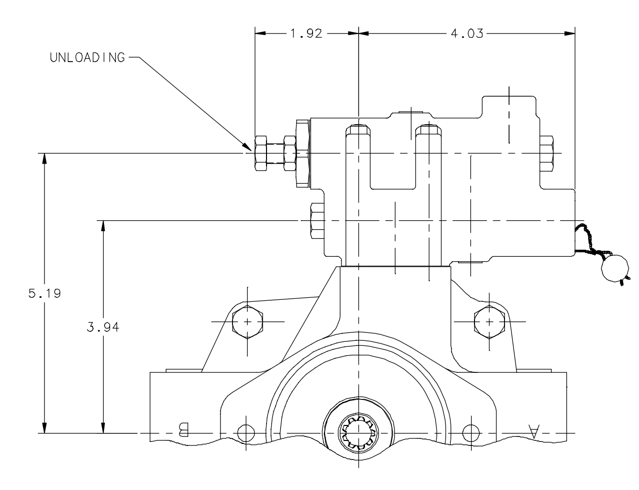
AUXILIARY SPLINE DATA	NO. TEETH	A	B	MAX. OUTPUT TORQUE IN-LBS
A9	9	.66	1.30	517
A11	11	.73	1.54	1050

SPLINE DATA A9

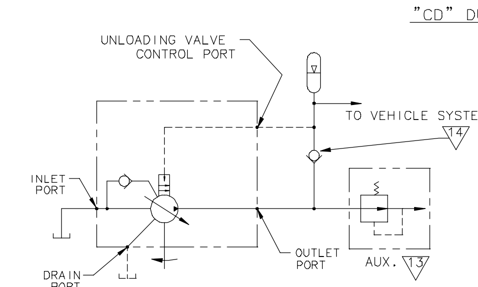
INTERNAL INVOLUTE SPLINE		
ASA B5.15-1960		
.5625 PITCH DIA	.4871 BASE DIA	
FLAT ROOT	SIDE FIT	
9 TEETH 16 / 32 PITCH	30° PR ANGLE	
MAJOR DIA	FORM DIA	MINOR DIA
.6360 MAX	.6125	.5139 MAX
.6250 MIN		.5089 MIN

SPLINE DATA A11

INTERNAL INVOLUTE SPLINE		
ANS B92.1-1970		
.6875 PITCH DIA	.59539 BASE DIA	
FLAT ROOT	SIDE FIT	
11 TEETH 16 / 32 PITCH	30° PR ANGLE	
MAJOR DIA	FORM DIA	MINOR DIA
.7760 MAX	.7540	.6360 MAX
MIN		.6310 MIN



"UV" UNLOADING VALVE



CIRCUIT DIAGRAM "UV"

3 ROTATION & OUTLET PORT LOCATION LABEL.

2 INSTALLATION INFORMATION
HORIZONTAL MOUNTING IS RECOMMENDED TO MAINTAIN NECESSARY CASE FLUID LEVEL. THE CASE DRAIN LINE MUST BE FULL SIZE UNRESTRICTED AND CONNECTED FROM THE UPPERMOST DRAIN PORT DIRECTLY TO THE RESERVOIR IN SUCH A MANNER THAT THE HOUSING REMAINS FILLED WITH FLUID. PIPING OF DRAIN LINE MUST PREVENT SIPHONING. PIPE DRAIN LINE SO THAT IT TERMINATES BELOW RESERVOIR FLUID LEVEL. NO OTHER LINES ARE TO BE CONNECTED TO THIS DRAIN LINE. CAUTION MUST BE EXCERCISED TO NEVER EXCEED 5 PSI UNIT CASE PRESSURE.
STARTING
BEFORE STARTING, FILL CASE WITH SYSTEM FLUID THRU UPPERMOST DRAIN PORT. HOUSING MUST BE KEPT FULL AT ALL TIMES TO PROVIDE INTERNAL LUBRICATION.

1 ALL SPECIFICATIONS, PERFORMANCE, NOTES, AND OTHER APPLICABLE INFORMATION SHOWN IN DANFOSS LITERATURE

8 TOLERANCES: (UNLESS OTHERWISE SPECIFIED)
ANGULAR AND PARALLEL RELATIONSHIPS +/- 0°30'
2 PLACE DECIMALS +/- .060
3 PLACE DECIMALS +/- .020
BOXED DIMENSIONS ARE REF.

7 CARE SHOULD BE TAKEN THAT MECHANICAL AND HYDRAULIC RESONANCES ARE AVOIDED IN THE APPLICATION OF THIS COMPONENT. SUCH RESONANCES CAN SERIOUSLY COMPROMISE THE LIFE AND/OR SAFE OPERATION OF THE COMPONENT.

6 CONSTRUCTION PLUG – DO NOT REMOVE.

5 INPUT TORQUE NOT TO EXCEED 1200 IN-LBS FOR NO. 1, 1852 IN-LBS FOR NO. 3, & 1900 IN-LBS FOR N SHAFT. PLUS TABBED AUXILIARY PUMP TORQUE WITH NO OVERHUNG LOAD. APPLICATIONS REQUIRING OVERHUNG LOAD CAPABILITY OR OTHER SHAFT ENDS ARE SUBJECT TO APPROVAL BY DANFOSS ENGINEERING.

4 MATING PART TOLERANCES AND INSTALLATION PRACTICES MUST BE COMPATIBLE SO THAT INTERFERENCES DO NOT RESULT IN SHAFT SIDE LOAD DURING OPERATION.

12 "CD" CONTROL ADJUSTMENT (ELECTRICAL -115 VOLTS 60 CYCLE)

1. WITH THE DIRECTIONAL VALVE DE-ENERGIZED, LOOSEN LOCKNUT "5" AND TURN THE ADJUSTING SCREW "4" TO THE DESIRED FIRST STAGE PRESSURE SETTING AND TIGHTEN LOCKNUT "5".

2. WITH SOLENOID DE-ENERGIZED, TURN ADJUSTING SPOOL "1" COUNTER-CLOCKWISE(CCW) UNTIL NUT "3" IS BOTTOMED IN ADJUSTING SCREW SLOT. (SECOND STAGE SETTING IS NOW EQUAL TO FIRST STAGE PRESSURE SETTING.) TURN ADJUSTING SPOOL CLOCKWISE (CW) TO DESIRED SECOND STAGE PRESSURE REQUIREMENTS. (ONE COMPLETE TURN OF ADJUSTING SPOOL EQUALS APPROXIMATELY 600 PSI.) ENERGIZE SOLENOID AND CHECK PRESSURE SETTING. DE-ENERGIZE SOLENOID AND READJUST IF NECESSARY. SECURE THIS SETTING BY TIGHTENING LOCKNUT "2".

11 DATE,MODEL CODE,AND ASSEMBLY NUMBER STAMPED ON THIS PLATE UNLESS OTHERWISE SPECIFIED.

10 COMPENSATOR ADJUSTMENT – CAUTION – WHILE PUMP IS OPERATING NO NOT BACK COMPENSATOR ADJUSTMENT OUT BEYOND 1.23 DIMENSION SHOWN.

9

ROTATION	OUTLET	INLET
L.H.	PORT"B"	PORT"A"
R.H.	PORT"A"	PORT"B"

15 THE MAXIMUM ECCENTRICITY BETWEEN SHAFT O.D. (OR SPLINE P.D.) AND PILOT DIA. IS .006 T.I.R. WHICH INCLUDES AN ECCENTRICITY OF .003 T.I.R. BETWEEN THE SHAFT AND ITS BEARING PILOT. MAXIMUM SQUARENESS DEVIATION OF MOUNTING FLANGE FACE TO AXIS OF SHAFT IS .0015 IN/IN. MATING PART TOLERANCES AND INSTALLATION PRACTICES MUST BE COMPATIBLE SO THAT INTERFERENCES DO NOT RESULT IN SHAFT SIDE LOAD DURING OPERATION. A COUPLING MAY BE USED TO PERMIT GREATER TOLERANCES IF IT DOES NOT RESULT IN SHAFT SIDE LOAD.

14 CUSTOMER SUPPLIED CHECK VALVE. INTERNAL LEAKAGE NOT TO EXCEED 5 DROPS PER MINUTE.

13 ANY FLOW TO AUX. CIRCUIT (INCLUDING LEAKAGE) WILL INCREASE TIME TO RECHARGE ACCUMULATOR. WHEN PUMP IS NOT CHARGING THE ACCUMULATOR, THIS PRESSURE WILL BE THE STANDBY PRESSURE.

G.T. CODE NO. | DIST. CODES

UNLESS OTHERWISE SPECIFIED
INTERPRET PER VS 1-3-3-1
ANGULAR DIMENSIONS ± 2°
SURFACE ROUGHNESS 3.2 μm (125 μIN)
TOLERANCES ON DECIMALS

	1 PLACE	2 PLACE	3 PLACE
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REMOVE BURRS
BREAK EDGES 0.25 mm (.010 IN) MAX.

THIRD ANGLE PROJECTION
MATERIAL
HEAT TREATMENT
COATING/PLATING

FIRST USED ON PVQ 20/32 -***-A*
AEL 0-02
REF 02-102772
DWN
CHK
MFG REV
RLSE: T.O. / PROTO / PROD.
ENGRG APPVL
SEE SHEET #1

Danfoss

TITLE INSTALLATION
VARIABLE DISPLACEMENT PISTON PUMP WITH THRU DRIVE AND CONTROLS

SIZE J | CAGE NO. | DRAWING NO. 02-334204 | REV
SCALE 1/1 | WT | ACTL CALC | SHEET 2 OF 2

DWG NO. 02-334204 SH 2 REV