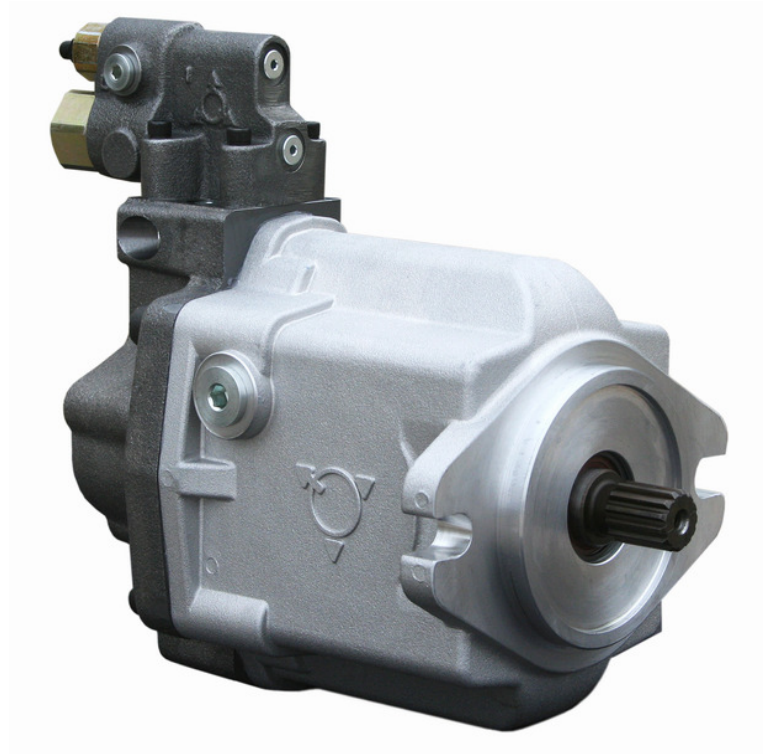


SALES AND APPLICATION



P10V45 SERIES AXIAL PISTON PUMPS

Plant Location and Mailing Address
14233 West Road
Houston, Texas 77041

Website: www.deltaq.com

Email: sales@deltaq.com

Phone: (281) 807-1840 or (800) 650-3110

Fax: (281) 807-4457

WARRANTY POLICY

Providing Purchaser notifies us promptly, if within 12 months from date of shipment to you, or prior to 2,000 hours of use, whichever shall first occur, equipment or parts manufactured by us fail to function properly under normal and proper use because of defects in material or workmanship demonstrated to our satisfaction to have existed at the time of delivery, the Company, reserving the right to either inspect them in your hands or request their return to us, will at our option repair or replace at our expense F.O.B. our factory, or give you proper credit for such equipment or parts determined by us to be defective, if returned transportation prepaid by Purchaser. The foregoing shall not apply to equipment that shall have been altered or repaired after shipment to you by anyone except our authorized employees, and the Company will not be liable in any event for alterations or repairs except those made with its written consent Purchaser shall be solely responsible for determining suitability for use and the Company shall in no event be liable in this respect. The equipment or parts manufactured by others but furnished by us will be repaired or replaced only to the extent of the original manufacturer's guarantee.

THE FOREGOING OBLIGATIONS ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES INCLUDING NEGLIGENCE AND ALL WARRANTIES, OR MERCHANTABILITY OR OTHERWISE EXPRESS OR IMPLIED IN FACT OR BY LAW, AND STATE OUR ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OR DAMAGES IN CONNECTION WITH THE SALE OR FURNISHINGS OR GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATION, WE WILL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND OUR LIABILITY UNDER NO CIRCUMSTANCES WILL EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

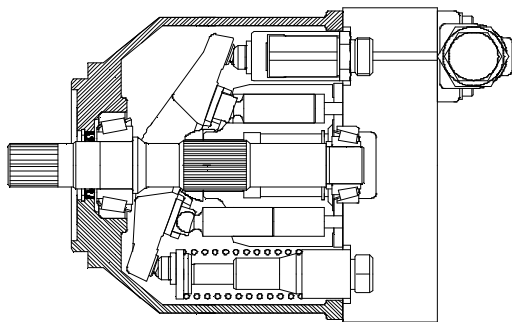
DISCLAIMER

Specifications, descriptions and illustrations shown herein were accurate at the time of printing. Delta[^]Q reserves the right to change specifications, materials, and/or designs without notice, and without incurring any obligation. Optional equipment may add cost to the basic unit price and some options are only available in combination with certain models or other options.

DESCRIPTION:

Variable Displacement Axial Piston Pump, of variable cam design for applications in open loop circuits.

Flow is proportional to the drive speed. By controlling the cam angle, a step-less variation of flow is possible.



FEATURES:

- SAE MOUNTING FLANGE AND SHAFT
- SAE PORTS, 4 BOLT FLANGE AND O-RING
- 2 OR MORE CASE DRAIN CONNECTIONS
- GOOD SUCTION CHARACTERISTICS
- OPERATING PRESSURE 4000 PSI (275 BAR)
- LOW NOISE LEVEL
- LONG SERVICE LIFE
- AXIAL & RADIAL LOADING OF DRIVE SHAFT
- HIGH POWER TO WEIGHT RATIO
- ALUMINUM HOUSING
- WIDE RANGE OF CONTROLS
- SHORT RESPONSE TIMES
- OPTIONAL THROUGH DRIVES

TECHNICAL DATA:

VALID OPERATION WITH PETROLEUM OIL. FOR WATER BASED AND OTHER FIRE RESISTANT FLUIDS CONSULT FACTORY.

OPERATING PRESSURE RANGE:
 SUCTION PORT ABSOLUTE PRESSURE:
 MIN-2.5 PSIG (-.017 BAR)
 MAX 420 PSIG (29 BAR)

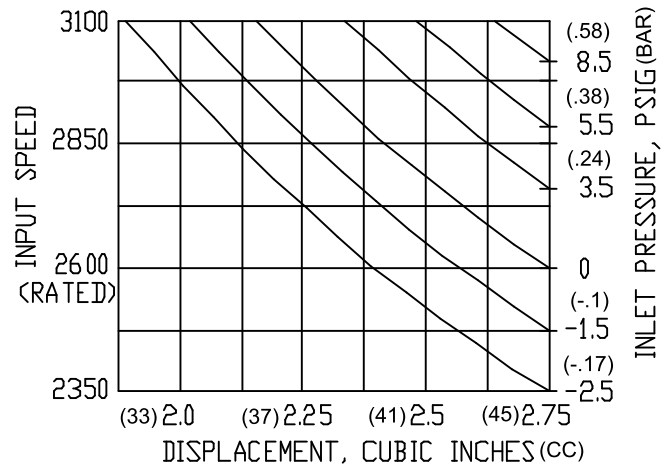
OUTLET PRESSURE:
 NOMINAL4000 PSIG (275 BAR)
 PEAK5100 PSIG (350 BAR)

APPLICATIONS WITH INTERMITTENT OPERATING PRESSURES UP TO 4600 PSI (316 BAR) AT 10% DUTY CYCLE ARE POSSIBLE.

CASE DRAIN PRESSURE:

MAXIMUM PERMISSIBLE PRESSURE AT THE CASE DRAIN PORT, 7 PSI (.5 BAR) HIGHER THAN INLET PRESSURE BUT NOT HIGHER THAN 30 PSI.

DETERMINATION OF INLET PRESSURE



SPECIFICATIONS: (THEORETICAL)

VALUE UNITS

DISPLACEMENT	2.75 (45)	IN ³ (CC)
MAXIMUM SPEED RATED (BASED ON 0 PSIG AT THE INLET)	2600	RPM
MAXIMUM PERMISSIBLE SPEED (LIMIT) BASED ON INLET PRESSURE OR REDUCED DISPLACEMENT	3100	RPM
MAX FLOW 3100 RPM 1800 RPM	31 (117) 21.4 (81)	GPM (LPM) GPM (LPM)
MAX POWER (4000 PSI / 275 BAR AT PUMP OUTLET) 3100 RPM 1800 RPM	72 50	HP HP
MAX TORQUE (4000 PSI AT PUMP OUTLET)	148	LB-FT
CASE FILL CAPACITY	0.22 (0.83)	GAL (L)
APPROXIMATE WEIGHT DRY	38 (17.27)	LB (KG)
MAXIMUM FORCE ON DRIVE SHAFT AXIAL RADIAL	337 (153) 337 (153)	LB (KG) LB (KG)

DELTA[^]Q

S&AP10V45.009

ORDERING CODE:

P10V	4545	B	1	B	4	C	2	R	100
SERIES	MODEL DISPLACEMENT	DESIGN	SHAFT	MOUNTING	CONSTRUCTION	CONTROL	COVER	ROTATION	VARIATION

SERIES: P10V AXIALPISTON PUMP FOR OPEN LOOP CIRCUITS

MODEL/DISPL:		CONTROLS, cont'd:	
4545	45cc / 2.75 IN ³	E	Load Sense w/350 psi min standby (24 BAR)
4541	41cc / 2.50 IN ³	F	Load Sense w/dyn LS pin
4537	37cc / 2.25 IN ³	G	Adj. Load Sense, high
4533	33cc / 2.00 IN ³	H	Adj. Load Sense w/dyn LS pin, high
4528	28cc / 1.70 IN ³	J	Adj. Load Sense, low
4525	25cc / 1.50 IN ³	K	Adj. Load Sense w/dyn LS pin, low
4521	21cc / 1.25 IN ³	L	Un-Loading 12 VDC
DESIGN:		M	Un-Loading 24 VDC
B	Level of design	N	Loading 12 VDC
SHAFTS:		P	Loading 24 VDC
1	SAE "B" (7/8") Spline	Q	Cover Plate
2	SAE "BB" (1") Spline	R	Flow Limiter
3	SAE "B"(7/8") SHORT KEYED	T	Torque Limiter
4	SAE "BB" (1") KEYED	CAX	2 Spool CAY except w/Bypass
13	SAE "B" (7/8" X 2.31 LONG) KEYED (Parker)	CAY	2 Spool Adj. Press. Comp. w/ Adj. Load Sense
Shafts with rear drives:		COVERS:	
5	SAE "B" Spline/SAE "A" rear spline	1	SIDE PORT, SAE 4 bolt flange code 61 with max & min volume stops
6	SAE "BB" Spline/SAE "A" rear spline	2	REAR PORT, SAE O-Ring
8	SAE "BB" Key/SAE "A" rear spline	3	SIDE PORT, SAE 4-bolt flange code 61
9	SAE "B" Spline/SAE "B" rear spline	4	REAR PORT, SAE O-ring with max & min volume stops
10	SAE "BB" Spline/SAE "B" rear spline	5	REAR PORT, 4 bolt flange code 61
11	SAE "BB" Spline/SAE "BB" rear spline	6	SIDE PORT, SAE 4-bolt flange code 61 with SAE B thru drive
12	SAE "BB" Key/SAE "B" rear spline	7	SIDE PORT, SAE 4-bolt flange code 61 with SAE A thru drive
14	SAE "BB" Key/SAE "BB" rear spline	8	REAR PORT, SAE 4 bolt flange code 61 with max & min volume stops
FLANGE:		11	REAR PORT, SAE O-Ring Ports #16 Pressure, #24 Suction <i>(Slim Fit For Direct Mount to PTO)</i>
B	SAE "B" two bolt	12	SIDE PORT,CW, 4Blt Flg MAX STOP
CONSTRUCTION:		13	SIDE PORT, SAE O-RING PORTS #16 & #24
1	Long Differential (350 psi) (24 BAR)	ROTATION: (viewed from shaft)	
4	Short Differential (50 psi) (3.5 BAR)	R	Clockwise
5	Torque Limiter (use with 'T' control)	L	Counterclockwise
9	Flow Limiter (use with 'R' control)	VARIATION CODE	
CONTROLS:		Assigned by factory for special variations	
A	Pressure Compensator		
B	Dual Pressure Compensator		
C	Load Sense w/170 psi min standby (11.7 BAR)		
D	Load sense w/dyn LS pin		

HYDRAULIC FLUID:

The P10V SERIES pumps should be used with good quality petroleum oil based, antiwear hydraulic fluids.

When operating with environmentally compatible fluids (Biodegradable) or fire resistant (Type HF Synthetic Fluids) possible reduction of the operating specifications may be required.

OPERATING VISCOSITY RANGE:

In order to obtain optimum efficiency and service life, we recommend that the operating viscosity (At the operating temp.) be selected from within the range as follows:

OPTIMUM VISCOSITY RANGE: 80 TO 170 SUS

VISCOSITY LIMITS:

The limiting values for viscosity are as follows:

MINIMUM VISCOSITY:

60 SUS for short periods at maximum permissible case leakage temperature of 196°F (91°C).

MAXIMUM VISCOSITY:

4800 SUS for short periods during cold start-up.

TEMPERATURE RANGE:

MINIMUM -15°F (-26°C)
MAXIMUM +195°F (91°C)

FILTRATION:

BETA 12 > 20

FLUID CLEANLINESS:

Operating Pressure: (Bar)

< 2000 PSI (137)

2000 (137) TO 3000 PSI (207)

> 3000 PSI (207)

ISO CLEANLINESS

18/16/14

17/15/13

16/14/12

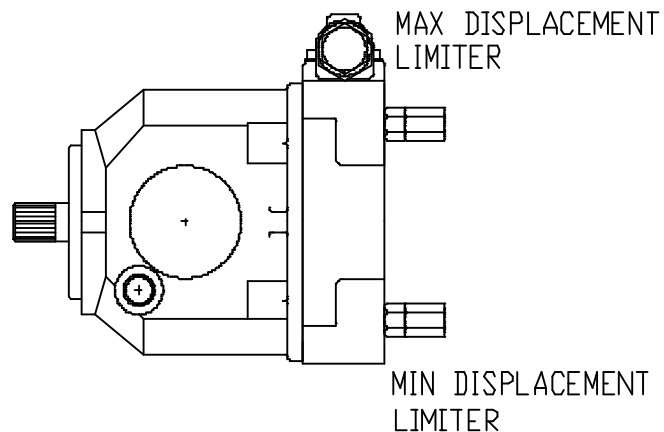
MECHANICAL STROKE LIMITER

**Not offered with through drives

ADJUSTMENT:

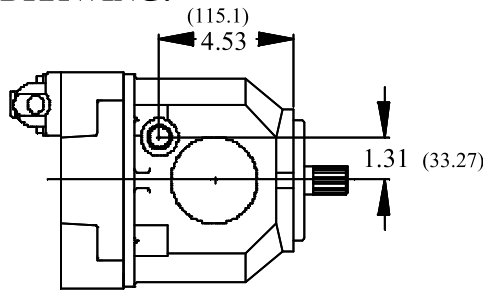
MAX 100% TO 50% DISPLACEMENT

MIN 0% TO 50% DISPLACEMENT

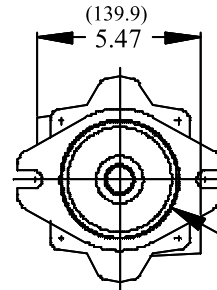


INSTALLATION DRAWING: REAR PORTS

CW ROTATION
SHOWN. FOR CCW
PORTS AND
CONTROL ARE
OPPOSITE

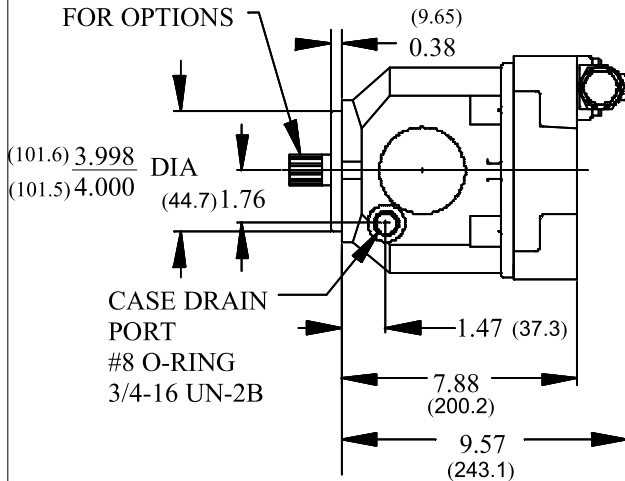


CASE PORTS

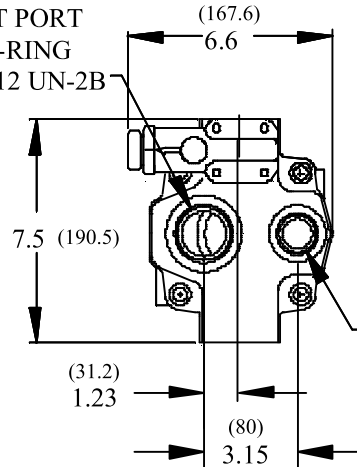


SAE B
2 BOLT MOUNT
4" (101.6) Pilot

SEE SHAFT SHEET
FOR OPTIONS



INLET PORT
#24 O-RING
1 7/8-12 UN-2B



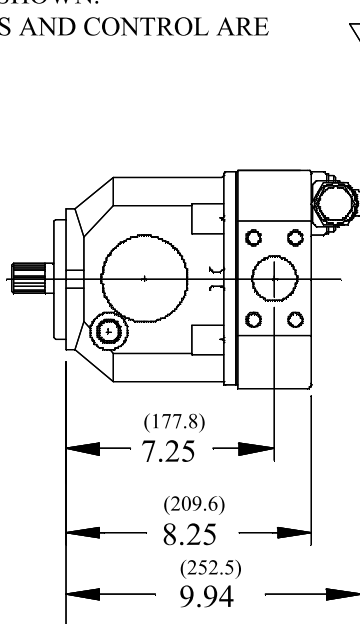
PRESSURE PORT
#16 O-RING
1 5/16-12 UN-2B

**ALSO AVAILABLE IN CODE 61
4 BOLT FLANGE PORTS**

INSTALLATION DRAWING: SIDE PORTS

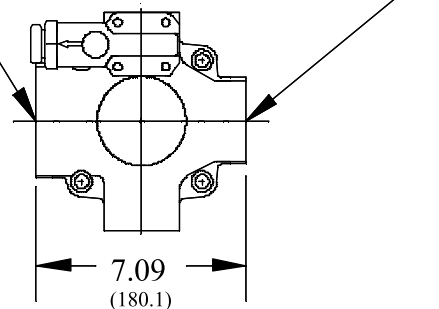
Dimensions: Inch (MM)

CW ROTATION SHOWN.
FOR CCW PORTS AND CONTROL ARE
OPPOSITE



INLET PORT SAE #24
4 BOLT CODE 61

OUTLET PORT SAE#16
4 BOLT CODE 61

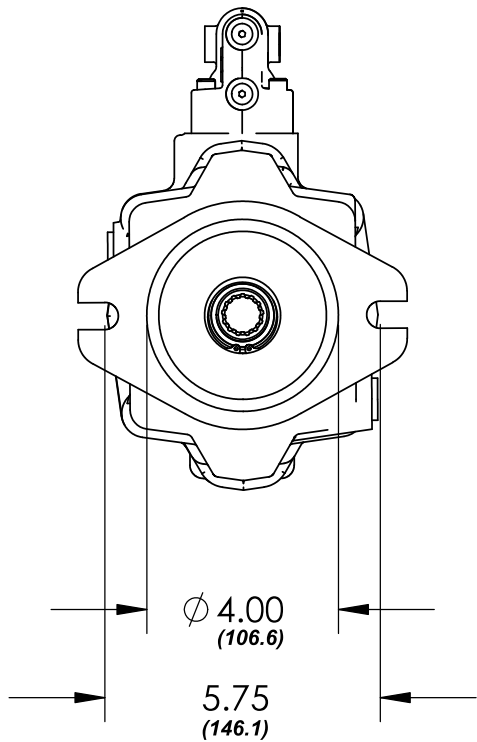
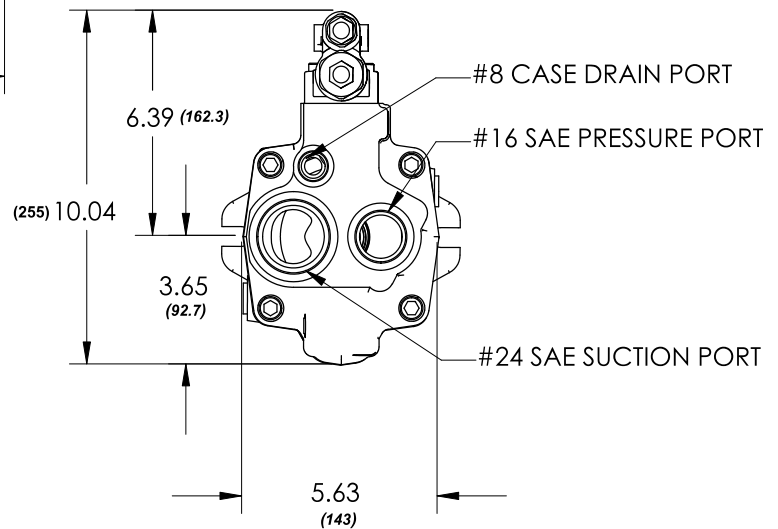
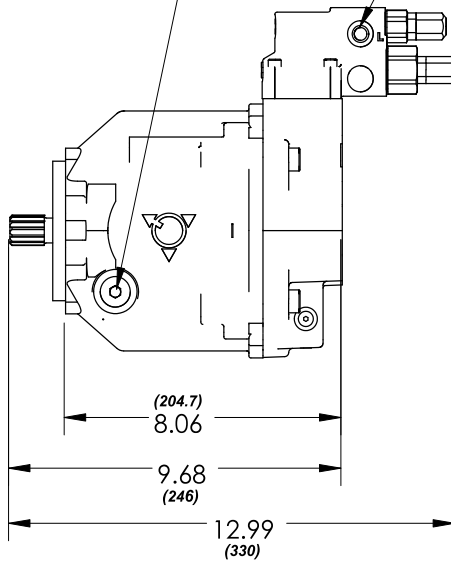


**ALSO AVAILABLE SAE THREADED
O-RING PORTS, SHOWN TOP OF PAGE**

***** Used for PTO Direct Mount Applications**

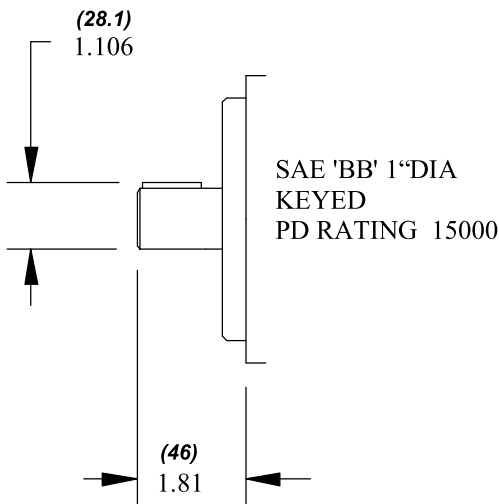
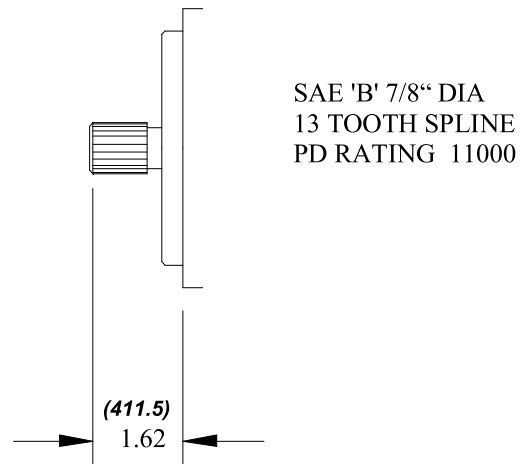
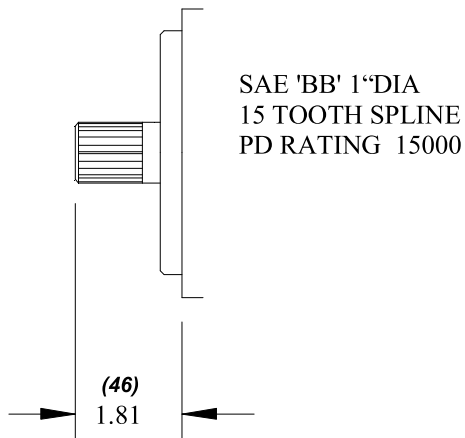
#8 SAE CASE DRAIN PORT
3 PLACES

#4 SAE LOAD SENSE PORT
2 PLACES (OPPOSITE)



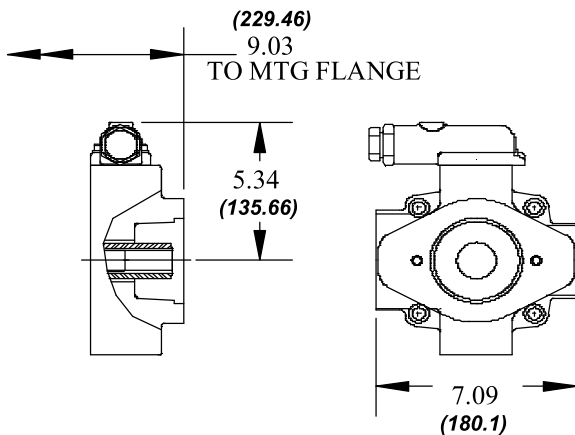
COVER CODE 11

SHAFTS:

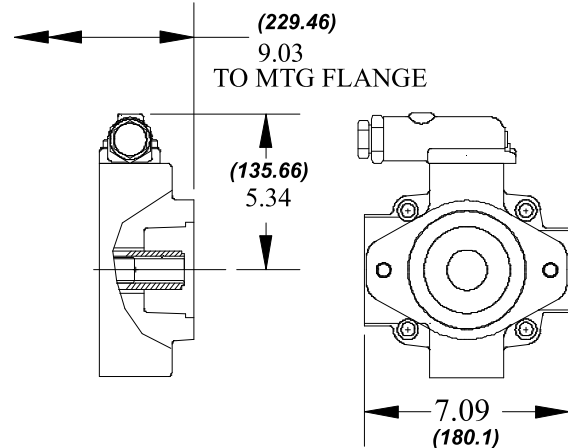


Dimensions: Inch (MM)

SAE 'A' THROUGH DRIVE



SAE 'B' THROUGH DRIVE 13T SPLINE 4.00" PILOT



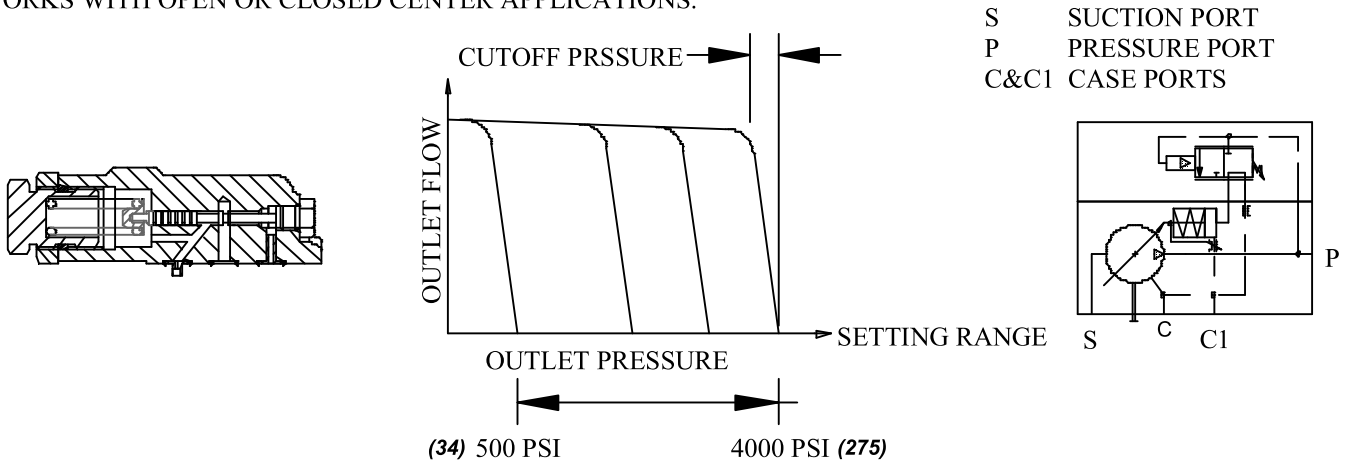
CONTROLS:

Delta^q offers a large array of controls that can be used as stand alone components or stacked together. For example, you can specify a pressure compensator, unloading, and torque limiter all on one pump. The model starts at the top control and works toward the pump, for example. CODE = "ANT". IF YOU SPECIFY A CONTROL SUCH AS LOADING OR TORQUE LIMITER AS THE ONLY CONTROL YOU MUST SPECIFY A COVER PLATE, THE CODE WOULD BE "QNT".

BY OFFERING CONTROLS IN THIS MANNER YOU CAN BUILD A VARIETY OF OPTIONS.

A PRESSURE CONTROL:

THE PRESSURE CONTROL MAINTAINS CONSTANT SYSTEM PRESSURE IN THE HYDRAULIC SYSTEM. THE PUMP SUPPLIES ONLY THE AMOUNT OF FLUID REQUIRED BY THE SYSTEM AT A GIVEN PRESET PRESSURE. WORKS WITH OPEN OR CLOSED CENTER APPLICATIONS.



CUTOFF PRESSURE IS DETERMINED BY THE CONSTRUCTION USED: (BAR)

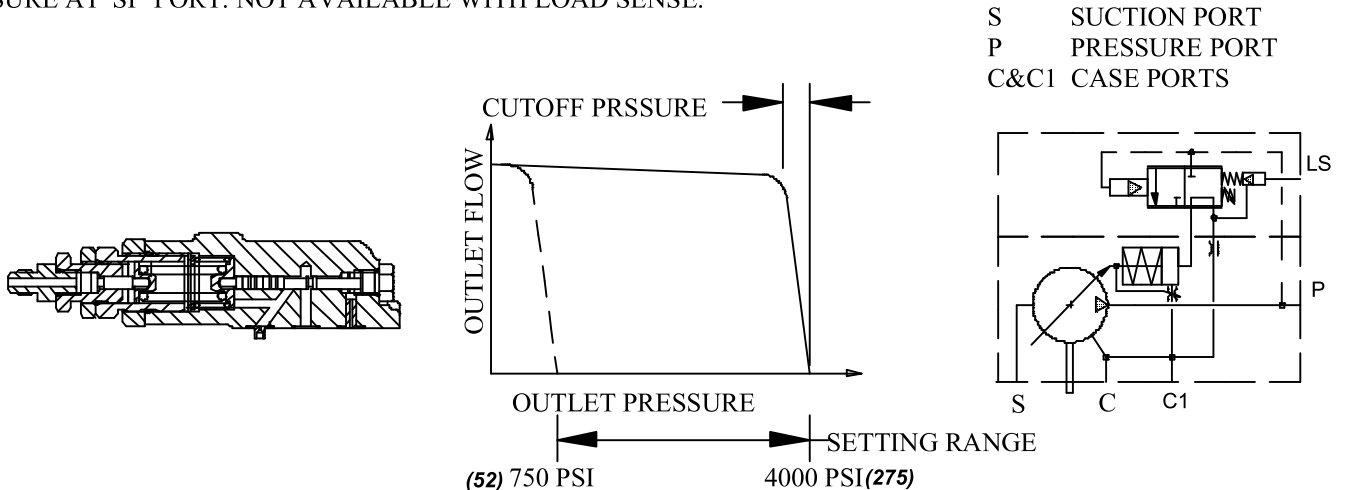
- #4 SHORT DIFFERENTIAL.....50 PSI (3)
- #5 TORQUE LIMITER.....550 PSI (38)
- #9 FLOW LIMITER.....15 PSI (1)

CONSTRUCTION AVAILABLE

B DUAL PRESSURE CONTROL:

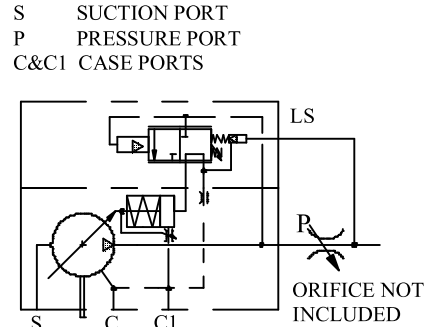
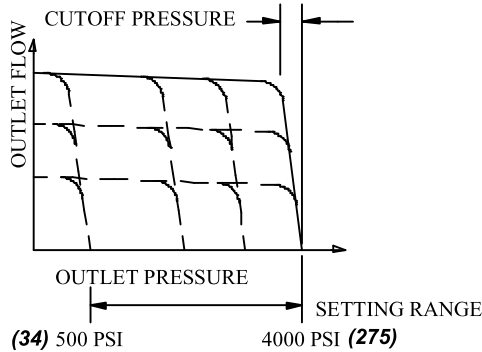
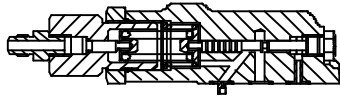
THE PRESSURE CONTROL MAINTAINS CONSTANT SYSTEM PRESSURE IN THE HYDRAULIC SYSTEM. THE PUMP SUPPLIES ONLY THE AMOUNT OF FLUID REQUIRED BY THE SYSTEM AT A GIVEN PRESET PRESSURE. WORKS WITH OPEN OR CLOSED CENTER APPLICATIONS

COMPENSATES SYSTEM PRESSURE AT TWO DIFFERENT SETTINGS. PUMP DESTROKES AT LOWER PRESET SETTING WITH 0 PSI AT 'SP' PORT. PUMP DESTROKES AT HIGHER PRESSURE SETTING WITH SYSTEM PRESSURE AT 'SP' PORT. NOT AVAILABLE WITH LOAD SENSE.



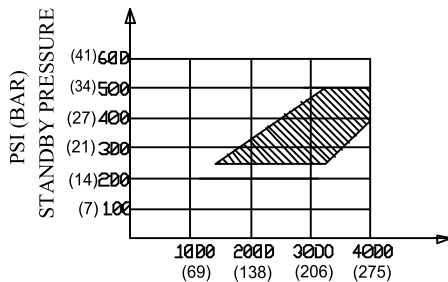
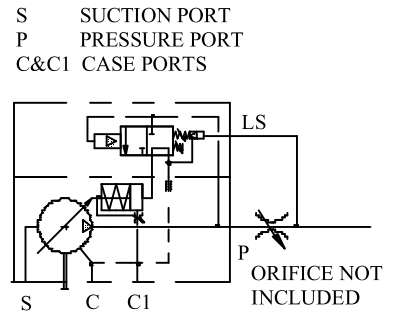
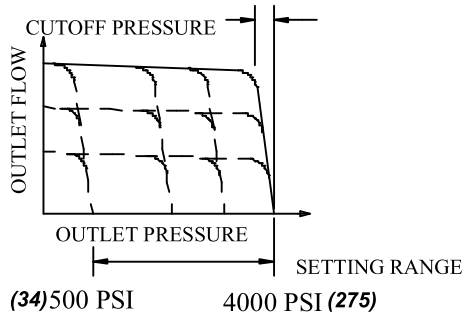
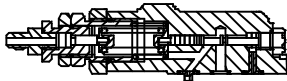
C,D,E&F LOAD SENSE CONTROL, NON ADJUSTABLE FLOW:

THE PRESSURE CONTROL FUNCTIONS THE SAME AS THE 'A' CONTROL. IN ADDITION THE PUMP FLOW MAY BE VARIED BY MEANS OF A DIFFERENTIAL PRESSURE AT THE ACTUATOR (e.g. ORIFICE) FED BACK TO THE 'LS' PORT. IF THE 'LS' PORT IS CONNECTED TO TANK (OR BLOCKED ON THE 'D'&'F' MODELS) THE PUMP WILL GO ON STANDBY.

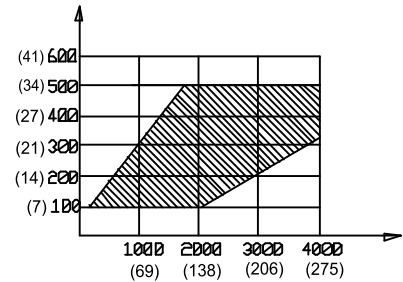


G,H,J&K LOAD SENSE CONTROL, ADJUSTABLE FLOW:

THE PRESSURE CONTROL FUNCTIONS THE SAME AS THE 'A' CONTROL. IN ADDITION THE PUMP FLOW MAY BE VARIED BY MEANS OF A DIFFERENTIAL PRESSURE AT THE ACTUATOR (e.g. ORIFICE) FED BACK TO THE 'LS' PORT. IF THE 'LS' PORT IS CONNECTED TO TANK (OR BLOCKED ON THE 'H'&'K' MODELS) THE PUMP WILL GO ON STANDBY.



COMPENSATOR PRESSURE: PSI (BAR)
CODE G&H



COMPENSATOR PRESSURE: PSI (BAR)
CODE H&K

CUTOFF PRESSURE IS DETERMINED BY THE CONSTRUCTION USED:

- #4 SHORT DIFFERENTIAL.....50 PSI (3)
- #5 TORQUE LIMITER.....550 PSI (38)
- #9 FLOW LIMITER.....15 PSI (1)

CONSTRUCTION AVAILABLE

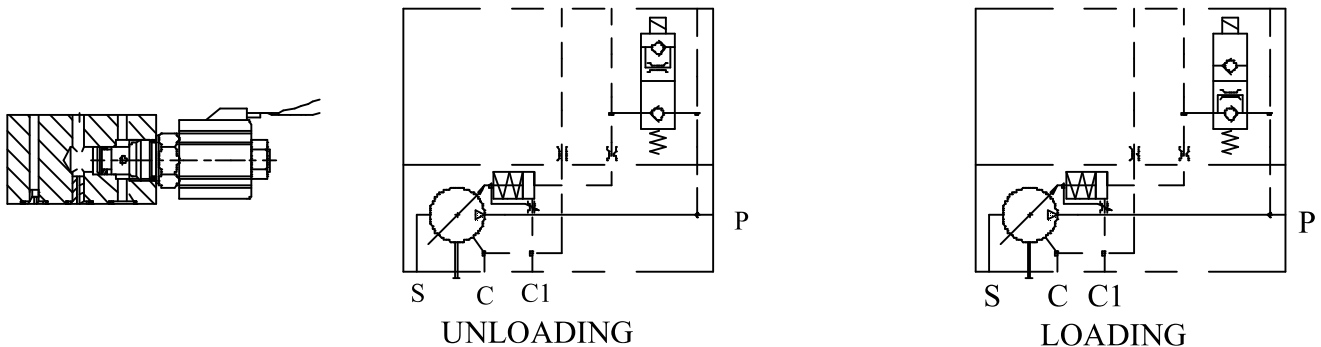
MODELS 'D','F','H' AND 'K' HAVE A DYNAMIC LOAD SENSE PIN ALLOWING A SMALL AMOUNT OF FLOW TO PASS THROUGH THE LS LINE.

L,M,N&P LOADING AND UNLOADING CONTROL:

THE LOADING CONTROL KEEPS THE PUMP IN THE OFF POSITION AND WILL STROKE THE PUMP TO FULL ON WHEN A VOLTAGE IS APPLIED TO THE CONTROL SOLENOID. THE UNLOADING CONTROL KEEPS THE PUMP FULL ON AND WILL DE-STROKE THE PUMP TO FULL OFF WHEN A VOLTAGE IS APPLIED TO THE CONTROL SOLENOID.

OTHER CONTROLS SUCH AS PRESSURE, LOAD SENSE , TORQUE LIMITERS OR BLANK COVER MUST BE USED WITH THESE CONTROLS.

S SUCTION PORT
P PRESSURE PORT
C&C1 CASE PORTS

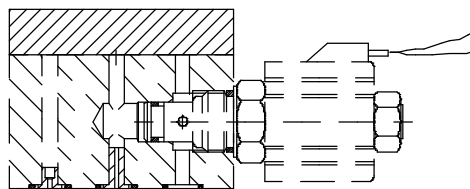


BOTH THESE CONTROLS ARE USED WHEN A LOW STARTING TORQUE IS REQUIRED IN SUCH APPLICATIONS AS DIESEL ENGINES. THERE ARE OTHER APPLICATION USES SUCH AS REMOTELY TURNING THE PUMP OFF IN RESPONSE TO OTHER CONDITIONS SUCH AS AN OVERPRESSURE SWITCH OR LIMIT SWITCH.

CODE 'L' IS A 12 VOLT DC UN-LOADING CONTROL
 CODE 'M' IS A 24 VOLT DC UN-LOADING CONTROL
 CODE 'N' IS A 12 VOLT DC LOADING CONTROL
 CODE 'P' IS A 24 VOLT DC LOADING CONTROL

Q COVER PLATE FOR CONTROLS:

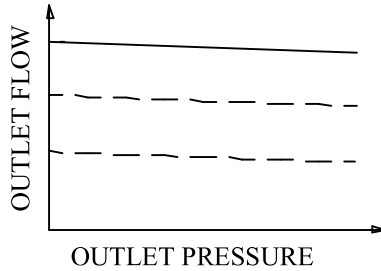
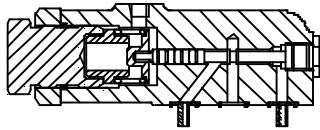
THE COVER PLATE IS REQUIRED FOR CONTROLS WITH THROUGH PORTS SUCH AS TORQUE LIMITER AND LOADING CONTROLS.



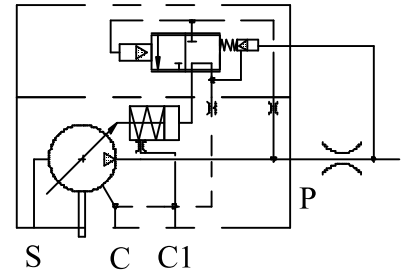
R FLOW LIMITER CONTROL:

PUMP FLOW IS VARIED BY USING A FIXED ORIFICE AND ADJUSTING THE CONTROL. THE PRINCIPLE USE OF THIS CONTROL IS IN GENERATOR SETS TO MAINTAIN VOLTAGE FREQUENCY.

THIS CONTROL DOES NOT CONTAIN A PRESSURE COMPENSATOR.



S SUCTION PORT
P PRESSURE PORT
C&C1 CASE PORTS



T TORQUE LIMITER CONTROL:

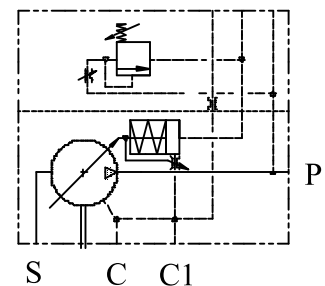
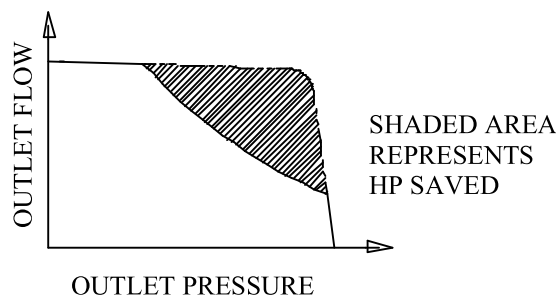
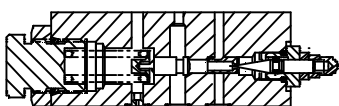
THIS CONTROL LIMITS THE TORQUE REQUIRED TO OPERATE THE PUMP, IF AT A CONSTANT SPEED (RPM) THIS IS A HORSEPOWER LIMITER.

TORQUE IS THE PRODUCT OF DISPLACEMENT AND PRESSURE ($PD/2\pi$)

HORSEPOWER CAN BE REPRESENTED BY THE PRODUCT OF FLOW AND PRESSURE ($GPM \times PSI / 1714$)

THE CONTROL SIMPLY WORKS ON THE BASIS OF ORIFICE PRESSURE DROPS AND SPRING RATES, NO

S SUCTION PORT
P PRESSURE PORT
C&C1 CASE PORTS



IN ORDER TO ACHIEVE A CONSTANT DRIVE TORQUE WITH A VARYING OPERATING PRESSURE THE OUTPUT FLOW IS VARIED BY CONTROLLING THE CAM ANGLE SO THAT THE PRODUCT OF FLOW AND PRESSURE IS CONSTANT.

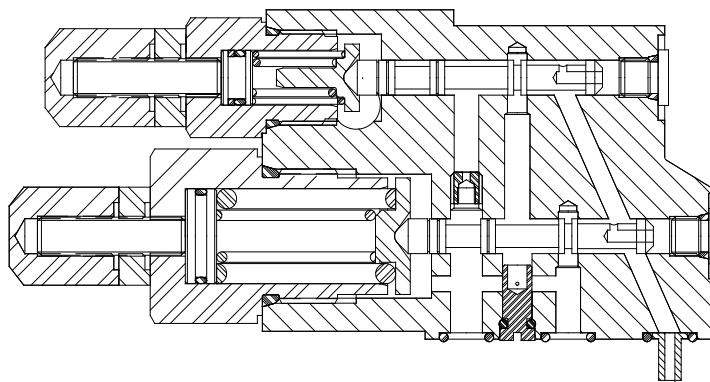
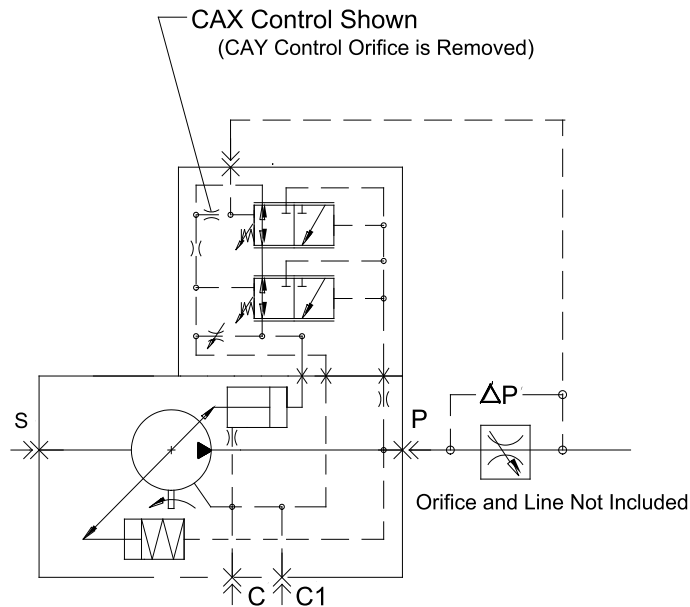
WHEN ORDERING SPECIFY THE TORQUE REQUIRED OR HORSEPOWER AND SHAFT SPEED OF THE PUMP.

'CAY' Load Sense Pressure Compensator Control:

The pressure control maintains constant pressure in the hydraulic system. The pump supplies only the amount of fluid required by the system to maintain a pre-set pressure. The pump flow may be varied by means of a differential pressure at the actuator/ orifice, fed back to the load sense port. If, the 'LS' port is connected to the tank, then the pump will go on stand-by.

'CAX' Dynamic Load Sense Pressure Compensator Control:

Same as the 'CAY' control, except the load sense spool has flats to vent the load sense port to case. If, the 'LS' port is connected to tank or blocked the pump will go on stand-by.



Differential Pressure: (Bar)
 Adjustable between 150 PSI (10) to 450 PSI (31)
 Stand-by pressure adjustable 150 PSI (10) to 800 PSI (55 Bar)

Cut-off Pressure is determined by the Construction Used:

- #4 Short Differential.....550 PSI (1)
- #5 Torque Limiter.....550 PSI (1) Constructions Available
- #9 Flow Limiter.....15 PSI (1)

Application Notes, DELTA^Q Piston Pumps

Filtration:

Inlet

Use 100 mesh screen.

Inlet filters are not recommended except for supercharged systems.

Discharge

Filters, either pressure-line or return, should be capable of keeping fluid cleanliness as follows:

<u>Operating Pressure (Bar)</u>	<u>ISO Cleanliness</u>
<2000 PSI (138)	18/16/14
2000 to 3000 PSI (138) (206)	17/15/13
>3000 PSI (206)	16/14/12

Inlet Conditions:

Check pumps drive speed against required inlet pressure.

Make adjustments for altitude if necessary.

Install pump below reservoir to assure flooded inlet when possible.

If necessary install charge pump on auxiliary pad (SAE 'A' or 'B').

Conditions must be met at lowest operating temperatures.

Case Pressure “IMPORTANT”:

Use one case drain per pump, ½ inch dia. Minimum.

Do not use filters or coolers in case drain lines.

Case pressure must not exceed 7 PSI(.5 bar) above inlet pressure (Example: If inlet pressure is 10 PSI(.7 bar), case pressure must not exceed 17 PSI/ 1.2 bar).

25 PSI/ 1.7 bar maximum case pressure.

Use upper most case drain port.

Connect case drain below fluid level in side of reservoir.

Run case lines in such a manner to prevent draining, siphoning or air locking of fluid.

Compensator setting:

Compensator settings are factory set but may be field adjusted.

If adjustments are necessary CW rotation will increase setting; CCW rotation will decrease setting.

Load Sense Lines:

Use of ¼“ O.D. steel or steel-braid load-sense lines may be required for stability if distance from pump to control valve is excessive.

On load-sense controls, sense line must be connected to pressure for high-pressure cut-off to occur. For low-pressure standby the sense line must be vented to tank unless dynamic load-sense pin is used then line may be blocked.

Start-Up:

Install required gages prior to filling pump with fluid to observe case pressure, system pressure and inlet pressure to make sure it is within DELTA^Q ratings.

Check all fittings to be sure they are tight.

Fill reservoir with filtered approved oil.

Fill pump case with filtered system oil. Make sure case is at least half full before start-up. Internal leakage will not provide enough lubrication if case is dry. Pump must not run dry.

Open any shut off valves between reservoir and pump.

If the pump is used in a closed outlet system, disconnect the outlet line until pump is primed and pumping fluid. Pump must not be allowed to pump into a closed system application until the pump has primed or damage to the pump will occur.

Start prime mover and operate at minimum speed and minimum pressure until all air is purged from the pump. Stop the prime mover and reconnect pump outlet hose then purge air from the system by starting the prime mover and operating control valve.

Check fluid lines for leaks. Inlet line must be “air tight”.

Re-check reservoir fluid level, add if necessary.

Cycle pump - observe system pressure, case pressure and inlet pressure to ensure that they fall within the pump rating.

Pump Rotation:

Can be changed by installing opposite rotation cover and valve plate.

Application Assistance:

Professional application and controls engineering assistance is available.

Complete the pump application form and contact DELTA^Q.

!WARNING

Failure to comply with any of these requirements and procedures will result in a voided warranty

Visit our Web Site at www.deltaq.com

Application Questionnaire

Company _____

Address _____ Web site _____

Telephone _____ Email _____

Please provide any pertinent operating conditions. This will assist in providing a successful application

Application Mobile Industrial

Power Source
describe the power source such as
make and model Diesel Engine _____
Gasoline Engine _____

Electric Motor _____

Application speed range RPM min. _____ RPM max. _____

Minimum available torque to drive
pump _____ @ _____ RPM

Pump displacement _____ CIR

Maximum system pressure _____ PSI

External circuit relief Yes No

Hydraulic Fluid
Type of fluid _____

Operating temp. range _____ °F min _____ °F max

Filtration Inlet strainer size _____ H.P. _____ Return line _____

Fluid head at pump _____

Inlet line to pump I.D. _____ inches, Length _____ feet

Reservoir Capacity _____ Pressureized Yes No

Case drain line I.D. _____ inches, Length _____ feet

Type of pump Control
Pressure compensation Yes No Pressure _____ PSI

Load Sense, flow on demand
(do not sense in turbulent zone) Yes No I.D. _____ inches Length _____ feet

Standby pressure required _____ PSI

Type of system control valve _____

Torque limiting Yes No Torque _____ in-lbs @ _____ RPM

Machine model _____ Serial number _____

Date _____