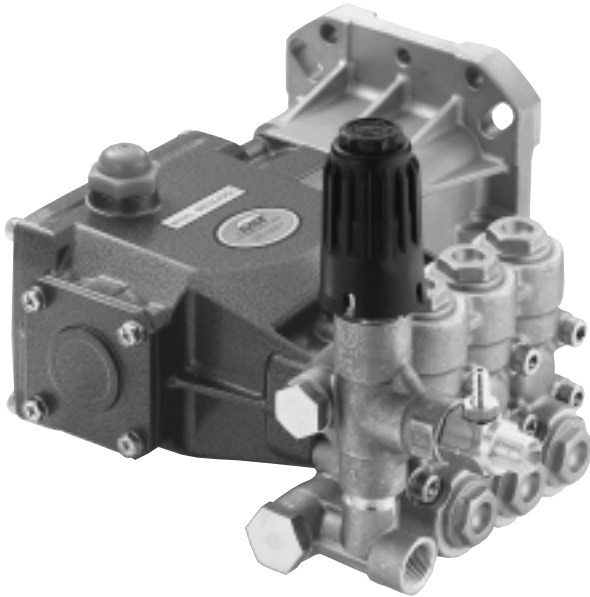




Gas engine must be purchased separately.

FEATURES

- Triplex plunger design provides a smooth liquid flow.
- Specially formulated Hi-Pressure V-Packings and concentric, polished ceramic plungers assure maximum seal life.
- Built-in flange mount for easy, direct mounting to most gas engines. Eliminates the need for pulleys, belts, gearboxes.
- Modular Regulating Unloader with built-in by-pass is standard for safety and pressure setting.
- Fixed Chemical Injector is standard and mounts directly onto Unloader to provide cleaning flexibility.

⚠ WARNING

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

Direct-Drive Plunger Pump

Models **66DX30G1/**
66DX35G1/
66DX40G1/

SPECIFICATIONS

U.S. Measure

Metric Measure

MODEL 66DX30G1/

Flow3.0 GPM (11.4 L/M)
 Pressure Range100 to 4000 PSI (7 to 275 BAR)
 Stroke.....0.339" (8.6 mm)

MODEL 66DX35G1/

Flow3.5 GPM (13.2 L/M)
 Pressure Range100 to 4000 PSI (7 to 275 BAR)
 Stroke.....0.394" (10 mm)

MODEL 66DX40G1/

Flow.....4.0 GPM (15.0 L/M)
 Pressure Range100 to 4000 PSI (7 to 275 BAR)
 Stroke.....0.449" (11.4 mm)

COMMON PUMP SPECIFICATIONS

Max. RPM3400 RPM (3400 RPM)
 Engine Mounting Face6.5" (6.5")
 Inlet Pressure RangeFlooded to 75 PSI (Flooded to 5.25 BAR)
 Bore.....0.551" (14 mm)
 Shaft Diameter (Hollow).....1" (25.4 mm)
 Max. Liquid Temperature100°F (40°C)
 Crankcase Capacity18 oz. (0.55 L)
 Inlet Ports (2).....1/2" NPTF (1/2" NPTF)
 Discharge Ports (2)3/8" NPTF (3/8" NPTF)
 Weight.....26.15 lbs. (11.9 kg)
 Dimensions (Pump Only).....10.0 x 9.96 x 6.38" (254 x 253 x 162 mm)

HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE			RPM
			PSI 2500	PSI 3200	PSI 4000	
	U.S. GPM	L/M	BAR 175	BAR 220	BAR 275	
66DX30G1/	3.0	11.4	5.1	6.6	8.2	3400
66DX35G1/	3.5	13.2	6.0	7.7	9.6	3400
66DX40G1/	4.0	15.0	6.9	8.8	11.0	3400

DETERMINING THE PUMP R.P.M.	<u>Rated G.P.M.</u>	=	<u>"Desired" G.P.M.</u>
	<u>Rated R.P.M.</u>	=	<u>"Desired" R.P.M.</u>
DETERMINING THE REQUIRED H.P.	<u>GPM x PSI</u>	=	<u>Electric Brake</u>
	<u>1460</u>	=	<u>H. P. Required</u>
DETERMINING MOTOR PULLEY SIZE	<u>Motor Pulley O.D.</u>	=	<u>Pump Pulley O.D.</u>
	<u>Pump R.P.M.</u>	=	<u>Motor R.P.M.</u>

Note: Consult engine manufacturer when using gas or diesel engine.
 Refer to pump Service Manual for repair procedure and additional technical information.

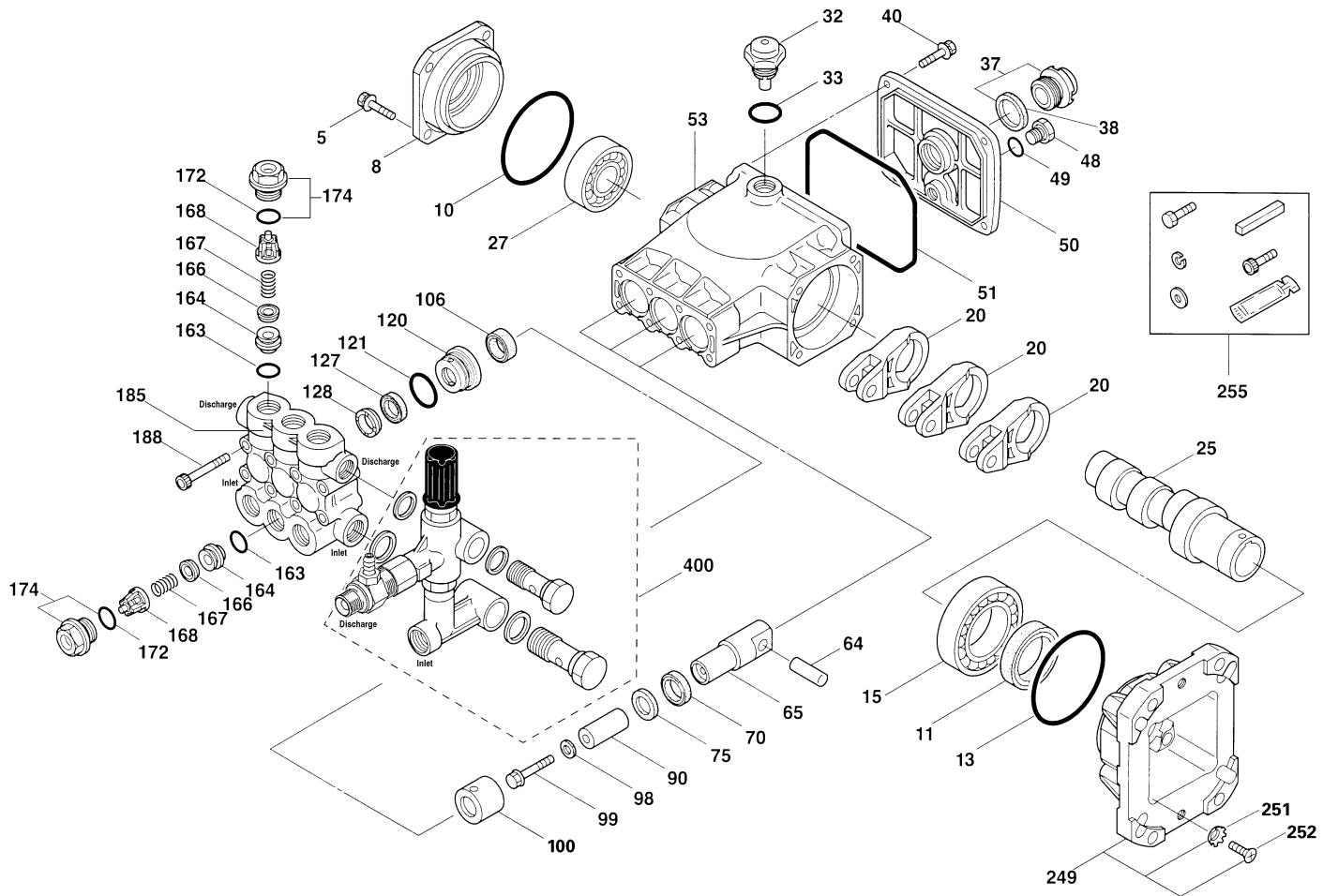
"Customer confidence is our greatest asset"

EXPLODED VIEW

June 2003

66DX PLUNGER PUMP

With Unloader/Injector



PARTS LIST

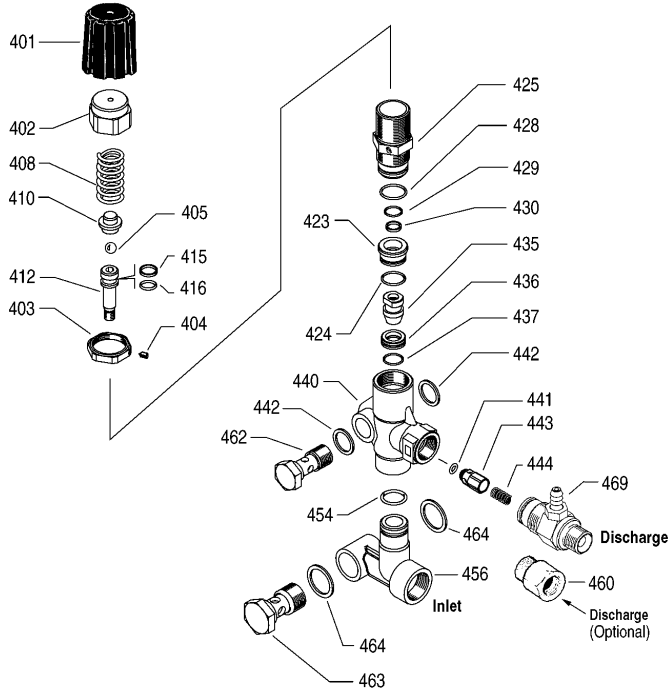
ITEM	P/N	MATL	DESCRIPTION	QTY	ITEM	P/N	MATL	DESCRIPTION	QTY
5	92519	STZP	Screw, Sems HHC (M6x16)	4	100	48755	NY	Retainer, Seal	3
8	48259	AL	Cover, Bearing	1	106	45188	NBR	Seal, LPS w/S-Spg	3
10	14028	NBR	O-Ring, Bearing Cover - 70D	1	120	48759	BB	Case, Seal	3
11	46419	NBR	Seal, Oil, Crankshaft - 70D	1	121	13980	NBR	O-Ring, Seal Case - 70D	3
13	14037	NBR	O-Ring, Bearing Cover - 70D	1	127	48758	SNG	V-Packing	3
15	146421	STL	Bearing, Ball - Inner	1	128	48757	NY	Adapter, Male	3
20	48843	TNM	Rod, Connecting	3	163	17547	NBR	O-Ring, Seat - 85D	6
25	48970	CM	Crankshaft (8.6 mm) 30G1I	1	164	45790	S	Seat	6
	48977	CM	Crankshaft (10.0 mm) 35G1I	1	166	46429	S	Valve	6
	48839	CM	Crankshaft (11.4 mm) 40G1I	1	167	43750	S	Spring	6
27	14480	STL	Bearing, Ball - Outer	1	168	46583	NY	Retainer, Spring	6
32	46798	—	Cap, Domed, Oil Filler	1	172	17616	NBR	O-Ring, Valve Plug - 80D	6
33	14179	NBR	O-Ring, Filler Cap - 70D	1	174	48760	BB	Plug, Valve w/O-Ring	6
37	92241	—	Gauge, Oil Bubble w/Gasket	1	185	48846	BB	Head, Manifold	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1	188	87870	STZP	Screw, HSH (M8x65)	8
40	92519	STZP	Screw, Sems HHC (M6x16)	4	249	48841	AL	Flange Mount	1
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1	251	46123	STZP	Lockwasher, Conical (M8)	4
49	23170	NBR	O-Ring, Drain Plug - 70D	1	252	46403	STZP	Screw, FH (M8x25)	4
50	48862	AL	Cover, Crankcase	1	255	30510	STZP	Assy, Bolt Mount	1
51	14048	NBR	O-Ring, Crankcase Cover - 70D	1		34100	STZP	Screw (3/8-16x1-3/8")	4
53	48830	AL	Crankcase	1		30921	STZP	Lockwasher (3/8")	4
64	46404	CM	Pin, Crosshead	3		30980	STZP	Washer, Flat (3/8")	4
65	48845	BB	Rod, Plunger	3		6106	—	Antiseize Lubricant	1
70	48911	NBR	Seal, Oil, Crankcase	3		45217	STL	Key (1/4"x1/4"x2-1/2") HD	1
75	48754	NBR	Slinger, Barrier - 70D	3		87788	STZP	Screw, Set (M5x8)	1
90	48752	CC	Plunger (M14x47)	3	300	34262	NBR	Kit, Seal (Incls: 98,106,121,127,128)	1
98	46730	NBR	Washer Seal, Plunger Retainer - 90D	3	310	34260	NBR	Kit, Valve (Incls: 163,164,166,167,168,172)	2
99	48201	SSL	Retainer, Plunger	3	400	7660	BB	Unloader Assembly w/Fixed Injector	1

Italics are optional items. See Tech Bulletins 024, 060, 074 and 083 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly NBR=Medium Nitrile (Buna-N) NY=Nylon S=304SS SNG=Special Blend (Buna) SSL=316SS/Low Carbon STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength

7660 UNLOADER WITH INJECTOR

Specifications	U.S. Measure	Metric Measure
Flow	2.0-5.0 GPM	(7.6-19 L/M)
PSI Range.....	700-4000 PSI	(50-275 BAR)
Inlet Port, Side	1/2" NPTF	(1/2" NPTF)
Discharge Port, Front.....	M22 x 1.5	(M22 x 1.5)
Weight.....	33 oz.	(0.94 kg)
Dimensions	4.5 x 2.0 x 6.50"	(114 x 51 x 165 mm)



PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY.
401	31728	NY	Handle, Adjusting (Black)	1
402	31726	BB	Cap, Adjusting	1
403	31727	BB	Nut, Locking (M27x1)	1
404	33061	STZP	Screw, Set (M4x4)	1
405	32289	SSSS	Ball (11/32")	1
408	34587	S	Spring	1
410	34574	BB	Retainer, Spring	1
412	34572	SS	*Stem, Piston Assy	1
415	—	PTFE	Guide Ring, Piston Stem	1
416	—	NBR	O-Ring, Piston Stem	1
423	34582	BB	Spacer	1
424	33043	NBR	O-Ring, Spacer	1
425	—	BB	Retainer, Piston	1
428	32926	NBR	O-Ring, Retainer	1
429	—	NBR	O-Ring, Piston Stem	1
430	—	PTFE	Back-up-Ring, Piston Stem	1
435	34581	SS	Valve/Ball Assembly (M8)	1
436	34575	SS	Seat	1
437	—	FPM	O-Ring, Seat	1
440	—	BB	Valve Body	1
441	—	NBR	O-Ring, Check Valve	1
442	33856	STL	Washer, Seal (3/8")	2
443	33339	S	Valve, Check	1
444	33843	S	Spring	1
454	—	NBR	O-Ring, Manifold	1
456	—	BB	Manifold	1
460	31855	BB	Fitting, Discharge (3/8" NPTF)	1
462	33892	BB	Screw, Flow-thru (3/8" NPTM)	1
463	33894	BB	Screw, Flow-thru (1/2" NPTM)	1
464	33854	STL	Washer, Seal (1/2")	2
468	34498	NBR	Kit, O-Ring (Incls: 415, 416, 424, 428, 429, 430, 437, 441, 454)	1
469	7243	—	Injector, Fixed	1

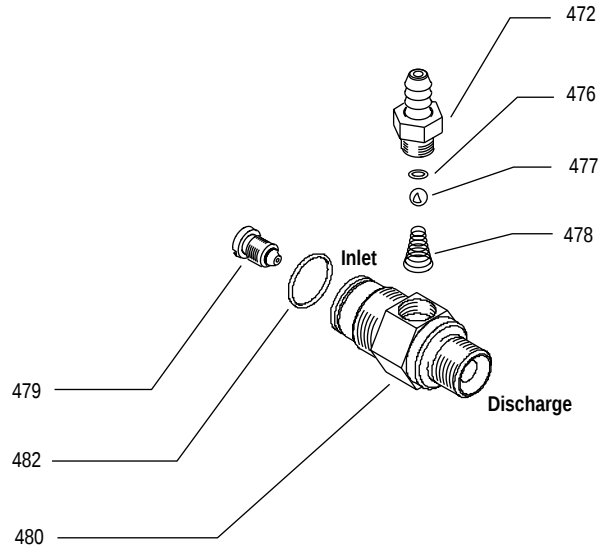
*NOTE: Piston stem has a special teflon guide ring with internal compression o-ring to provide low-friction stem movement at high pressure. A minute amount of fluid may weep from the piston retainer weep hole during the low pressure cycle. This is normal. Prolonged or excessive weeping indicates a need for valve servicing.

Italics are optional items.

MATERIAL CODES (Not Part of Part Number): BB=Brass FPM=Fluorocarbon (Viton®)
NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Teflon® S=304SS SS=316SS
SSSS=440SS STL=Steel STZP=Steel/Zinc Plated

7243 FIXED CHEMICAL INJECTOR

Specifications	U.S. Measure	Metric Measure
Flow	3.0-5.0 GPM	(11.4-19 L/M)
Nozzle Orifice.....	2.1 mm	(2.1 mm)
Hose Barb - Ext.	1/4"	(1/4")
Inlet Port.....	M22 x 1.5	(M22 x 1.5)
Discharge Port.....	3/8" NPTM	(3/8" NPTM)
Weight.....	6.3 oz.	(0.18 kg)
Dimensions	2.25 x 1.0 x 2.63"	(57 x 25 x 67 mm)



PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY.
472	33505	BB	Barb, Fixed	1
476	33504	FPM	O-Ring, Retainer	1
477	34620	SS	Ball (1/4")	1
478	33501	SS	Spring, Ball	1
479	32373	S	Injector Orifice (2.1 mm)	1
480	—	BB	Body, Unloader Mount	1
—	33480	BB	<i>Fixed Barb Assembly (Incls: 472,476,477,478)</i>	1
482	—	FPM	O-Ring	1

Italics are optional items.

MATERIAL CODES (Not Part of Part Number):

BB=Brass FPM=Fluorocarbon (Viton®) S=304SS SS=316SS

CHEMICAL INJECTOR PERFORMANCE CHART

Desired Pump Flow	Orifice Size	Injector Model	Maximum Injecting Pressure	Maximum Chemical Draw	Pressure Drop Across Injector at System Pressure (4000 PSI)
3.0	2.1 mm	7243	190 PSI	70.0 oz/min	136 PSI
3.5	2.1 mm	7243	260 PSI	74.2 oz/min	245 PSI
4.0	2.1 mm	7243	358 PSI	76.8 oz/min	288 PSI

Optimum performance of chemical injector occurs with a 35 ft. high pressure hose and a minimum 3/8 I.D. The type of hose, extended lengths, reduced I.D. and fittings may create back pressure in excess of the low pressure nozzle rating and prevent the injector from drawing chemical. **Deduct hose friction loss from the above PSI nozzle. Consult CAT PUMPS for assistance with other options.**

CAUTION: Deduct the pressure drop shown in the performance chart from your desired system pressure to arrive at the maximum high pressure nozzle rating. This is essential to avoid over-pressurizing the pump.

INSTALLATION:

A Modular Regulating Unloader with Chemical Injector comes with each 66DX pump to provide system pressure regulation, pump protection and metered chemical application. The Unloader is mounted directly onto the pump with flow-thru screws.

OPERATION:

Set the unloader while the high pressure system is turned on. Adjust in small increments until the desired system pressure is reached. Install a pressure gauge to check pressure during start-up and periodically during operation.

If unit is infrequently used or periodically stored, O-Rings may become dry. Check O-Rings before commencing operation.

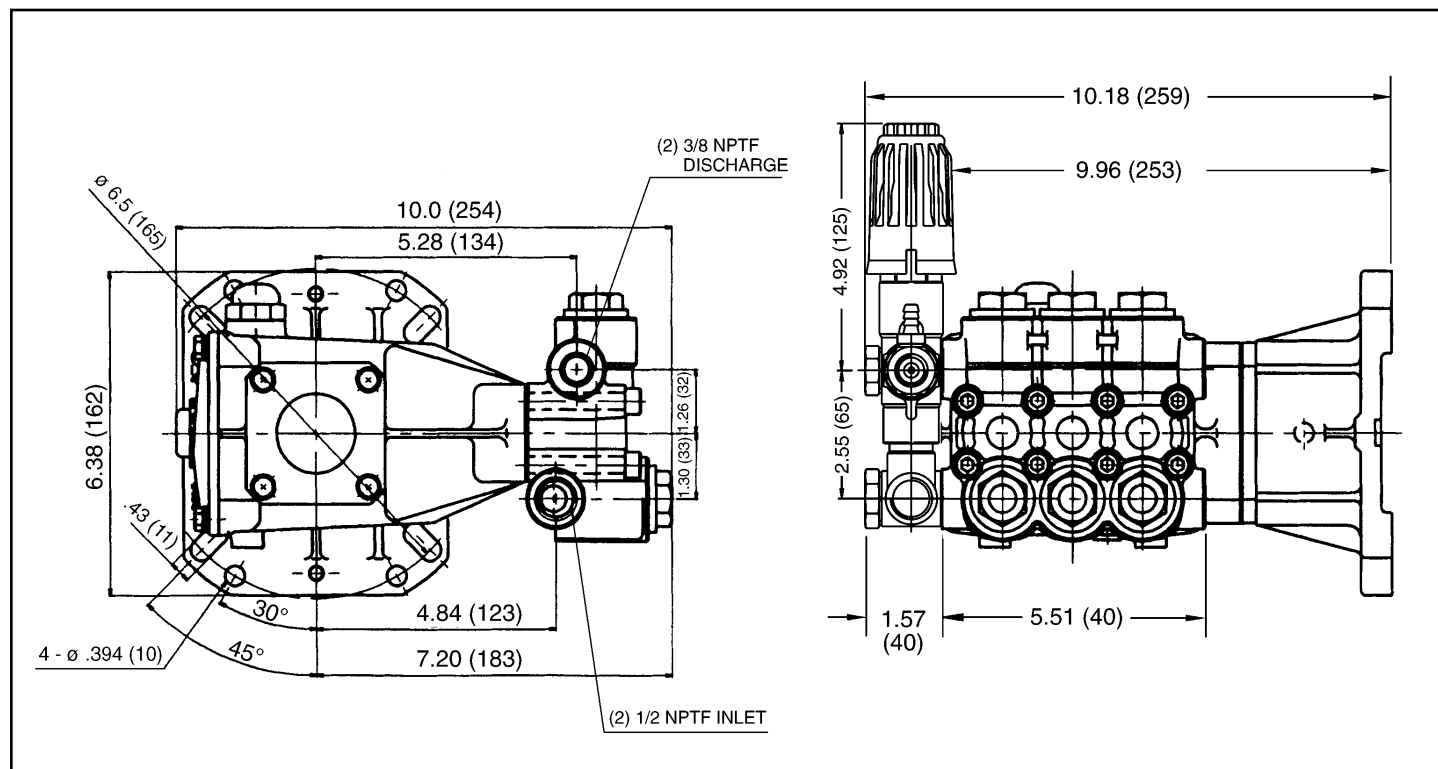
The system must be purged before operation (system liquid must flow through the pump without discharge restriction) to assure full system pressure is reached.

NOTE: For correct nozzle selection, **read system pressure at the pump. DO NOT READ SYSTEM PRESSURE AT THE HIGH PRESSURE GUN.** Incorrect pressure reading may result in: pump operation at excessive pressures, inconsistent chemical draw or possible damage to the pump or unloader.

SERVICE:

The unloader should be serviced on the same schedule as your pump. Replacing the O-Rings is generally all that is required. Lubricate the O-Rings for ease in installation and replace all O-Rings included in the kit. Examine the seating surfaces and replace the seat or ball and valve assembly as required. Check the adjustment spring and replace as needed. Examine the check valve and replace as needed. Thread adjusting cap onto the unloader and reset system pressure.

66DX DIMENSIONAL



Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

World Headquarters

CAT PUMPS

1681 - 94th Lane N.E. Minneapolis, MN 55449-4324

Phone (763) 780-5440 — FAX (763) 780-2958

e-mail: techsupport@catpumps.com

www.catpumps.com

International Inquiries

FAX (763) 785-4329

e-mail: intl@catpumps.com



The Pumps with Nine Lives

CAT PUMPS (U.K.) LTD.

1 Fleet Business Park, Sandy Lane, Church Crookham, Fleet

Hampshire GU52 8BF, England

Phone Fleet 44 1252-622031 — Fax 44 1252-626655

e-mail: sales@catpumps.co.uk

N.V. CAT PUMPS INTERNATIONAL S.A.

Heiveldekens 6A, 2550 Kontich, Belgium

Phone 32-3-450.71.50 — Fax 32-3-450.71.51

e-mail: cpi@catpumps.be www.catpumps.be

CAT PUMPS DEUTSCHLAND GmbH

Buchwiese 2, D-65510 Idstein, Germany

Phone 49 6126-9303 0 — Fax 49 6126-9303 33

e-mail: catpumps@t-online.de www.catpumps.de