

Gas engine must be purchased separately.

Direct-Drive Plunger Pump

Models 66DX30G11
 66DX35G11
 66DX40G11

SPECIFICATIONS

	U.S. Measure	Metric Measure
MODEL 66DX30G11		
Flow	3.0 GPM	(11.4 L/M)
Pressure Range	100 to 4000 PSI	(7 to 275 BAR)
Stroke	0.339"	(8.6 mm)
MODEL 66DX35G11		
Flow	3.5 GPM	(13.2 L/M)
Pressure Range	100 to 4000 PSI	(7 to 275 BAR)
Stroke	0.394"	(10 mm)
MODEL 66DX40G11		
Flow	4.0 GPM	(15.0 L/M)
Pressure Range	100 to 4000 PSI	(7 to 275 BAR)
Stroke	0.449"	(11.4 mm)

COMMON PUMP SPECIFICATIONS

Max. RPM	3400 RPM	(3400 RPM)
Engine Mounting Face	6.5"	(6.5")
Inlet Pressure Range	Flooded to 75 PSI	(Flooded to 5.25 BAR)
Bore	0.551"	(14 mm)
Shaft Diameter (Hollow)	1"	(25.4 mm)
Max. Liquid Temperature	100°F	(40°C)
Crankcase Capacity	18 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)

FEATURES

- Triplex plunger design provides a smooth liquid flow.
- Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and extended 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.

ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE			RPM
			PSI 2500	PSI 3200	PSI 4000	
	U.S. GPM	L/M	BAR 175	BAR 220	BAR 275	
66DX30G11	3.0	11.4	5.1	6.6	8.2	3400
66DX35G11	3.5	13.2	6.0	7.7	9.6	3400
66DX40G11	4.0	15.0	6.9	8.8	11.0	3400

DETERMINING THE PUMP R.P.M.	$\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}}$	=	$\frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{GPM} \times \text{PSI}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

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

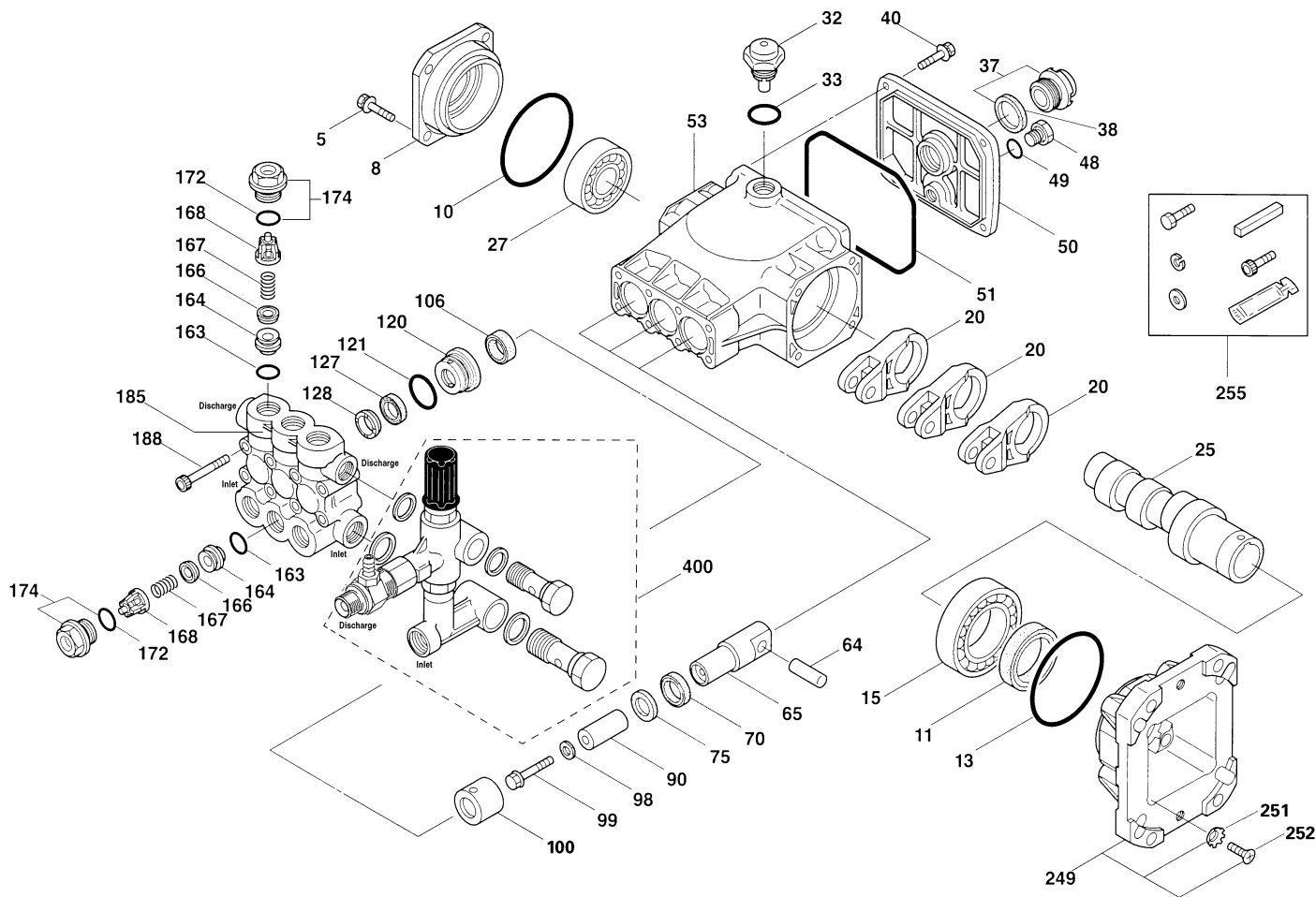
"Customer confidence is our greatest asset"

EXPLODED VIEW

April 2005

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) 30G11	1	164	45790	S	Seat	6
	48977	CM	Crankshaft (10.0 mm) 35G11	1	166	46429	S	Valve	6
	48839	CM	Crankshaft (11.4 mm) 40G11	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, Rear	1	255	30510	STZP	Assy, Bolt Mount	1
51	14048	NBR	O-Ring, Rear 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	7800	BB	Unloader Assembly w/Fixed Injector	1

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

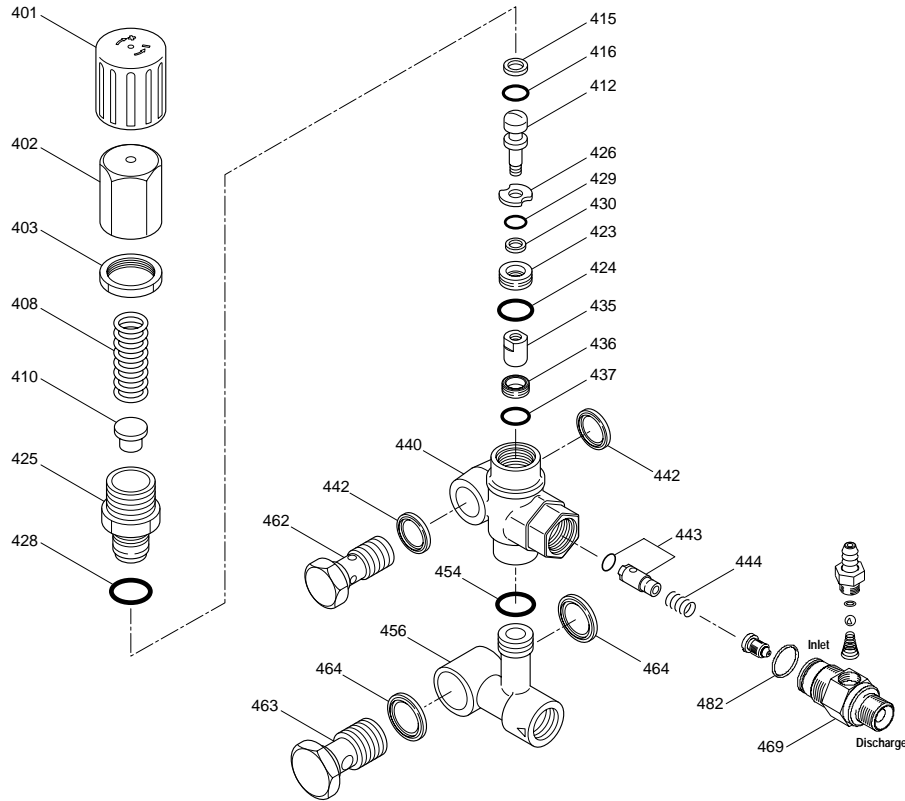
MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly NBR=Medium Nitrile (Buna-N) NY=Nylon S=304SS SNG=Special Blend (Buna) SSL=316SS/Low Carbon STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength

7800 UNLOADER WITH INJECTOR

7342 FIXED CHEMICAL INJECTOR

Specifications	U.S. Measure	Metric Measure
Flow	3.0-5.0 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.....	M20 x 1	(M20 x 1)
Weight.....	35.2 oz.	(1.0 kg)
Dimensions	4.65 x 1.70 x 6.75"	(118 x 43 x 171 mm)

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.....	M20 x 1	(M20 x 1)
Discharge Port	3/8" NPTM	(3/8" NPTM)
Weight.....	4.6 oz.	(0.13 kg)
Dimensions	1.81 x 1.0 x 2.09"	(46 x 25 x 53 mm)



PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY.
401	49100	NY	Handle, Adjusting (Black)	1
402	49099	BB	Cap, Adjusting	1
403	45201	BB	Nut, Locking (M25X1)	1
408	45198	ZP	Spring	1
410	49101	STZP	Retainer, Spring	1
412	49103	S	Stem, Piston	1
415	20889	PTFE	Back-up-Ring, Piston Stem	1
416	49104	NBR	O-Ring, Piston Stem - 90D	1
423	49105	BB	Spacer	1
424	49106	NBR	O-Ring, Spacer - 90D	1
425	49102	BB	Retainer, Piston	1
426	49107	S	Washer	1
428	26133	NBR	O-Ring, Retainer - 80D	1
429	22056	NBR	O-Ring, Piston Stem - 70D	1
430	49123	D	Back-up-Ring, Piston Stem	1
435	49108	S	Valve/Ball Assembly	1
436	49109	S	Seat	1
437	13965	NBR	O-Ring, Seat - 70D	1
440	—	BB	Valve Body	1
442	49121	STL	Washer, Seal (3/8")	2
443	49113	S	Valve, Check w/O-Ring	1
444	45924	S	Spring	1
454	11346	NBR	O-Ring, Manifold - 70D	1
456	—	BB	Manifold	1
462	49120	BB	Screw, Flow-thru (3/8" NPTM)	1
463	49117	BB	Screw, Flow-thru (1/2" NPTM)	1
464	49118	STL	Washer, Seal (1/2")	2
468	31708	NBR	Kit, O-Ring (Incls: 415,416,424,428,429,430,437,454,482)	1
469	7342	BB	Injector, Fixed	1
482	26133	NBR	O-Ring, Body - 80D	1

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	7342	190 PSI	70.0 oz/min	136 PSI
3.5	2.1 mm	7342	260 PSI	74.2 oz/min	245 PSI
4.0	2.1 mm	7342	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.

Italics are optional items.

MATERIAL CODES (Not Part of Part Number): BB=Brass D=Acetal
 NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene
 S=304SS STL=Steel STZP=Steel/Zinc Plated

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.

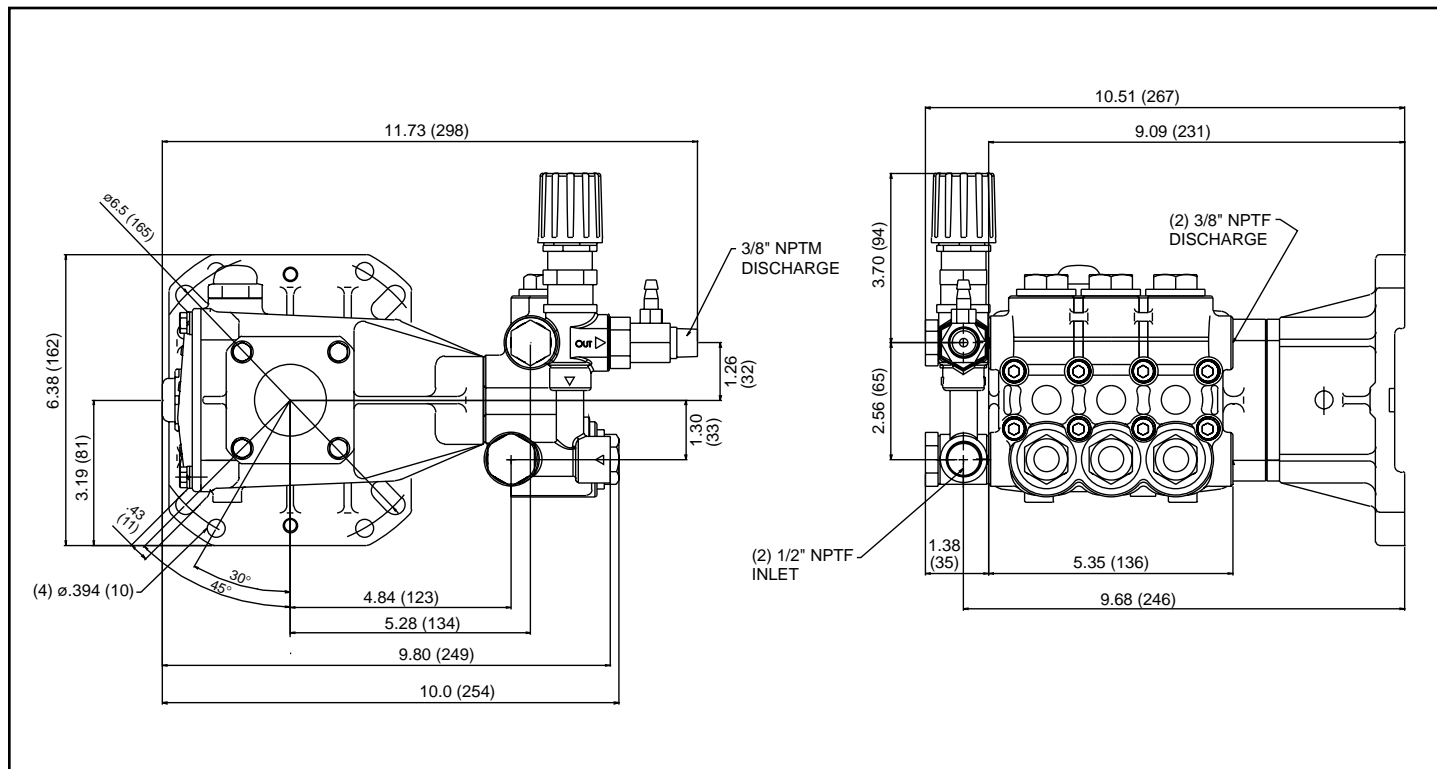
The system must be purged before operation (system liquid must flow through the pump without discharge restriction) to assure full system pressure is reached.

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

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