



# 123 Series Compressor Pump



<b>Model:</b>	<b>Flywheel</b>
<b>123-523</b>	<b>X</b>
<b>123-4502</b>	

### Specifications:

Minimum rpm: 350  
Maximum rpm: 950

Max Duty Cycle for 8 hour/day operation: 75-80%  
Max Duty Cycle for 16 hour/day operation: 60%  
Max Duty Cycle for 24 hour/day operation: 30-35%

Maximum Continuous Duty Working Pressure: 150 psi

Approx. Oil Capacity of Crankcase: 18.5 Fluid Ounces / 0.55 litres

HP	100 psi (3 ph)		100 psi (1 ph)		Cylinders			Flywheel	
	rpm	CFM	rpm	CFM	Qty	Bore	Stroke	Dia.	Groove
1/2	467	2.0	360	1.6	1	2.5"	2.25"	12"	1A
3/4	683	3.0	539	2.4					
1	898	3.9	712	3.2					

**Note:** As indicated above, the CFM output of a Unit with single phase electrics is approximately 80% that of the three phase power.

**NOTE**

For installation and maintenance information, refer to DV Systems Bulletin 'HDI01'.

**CAUTION**

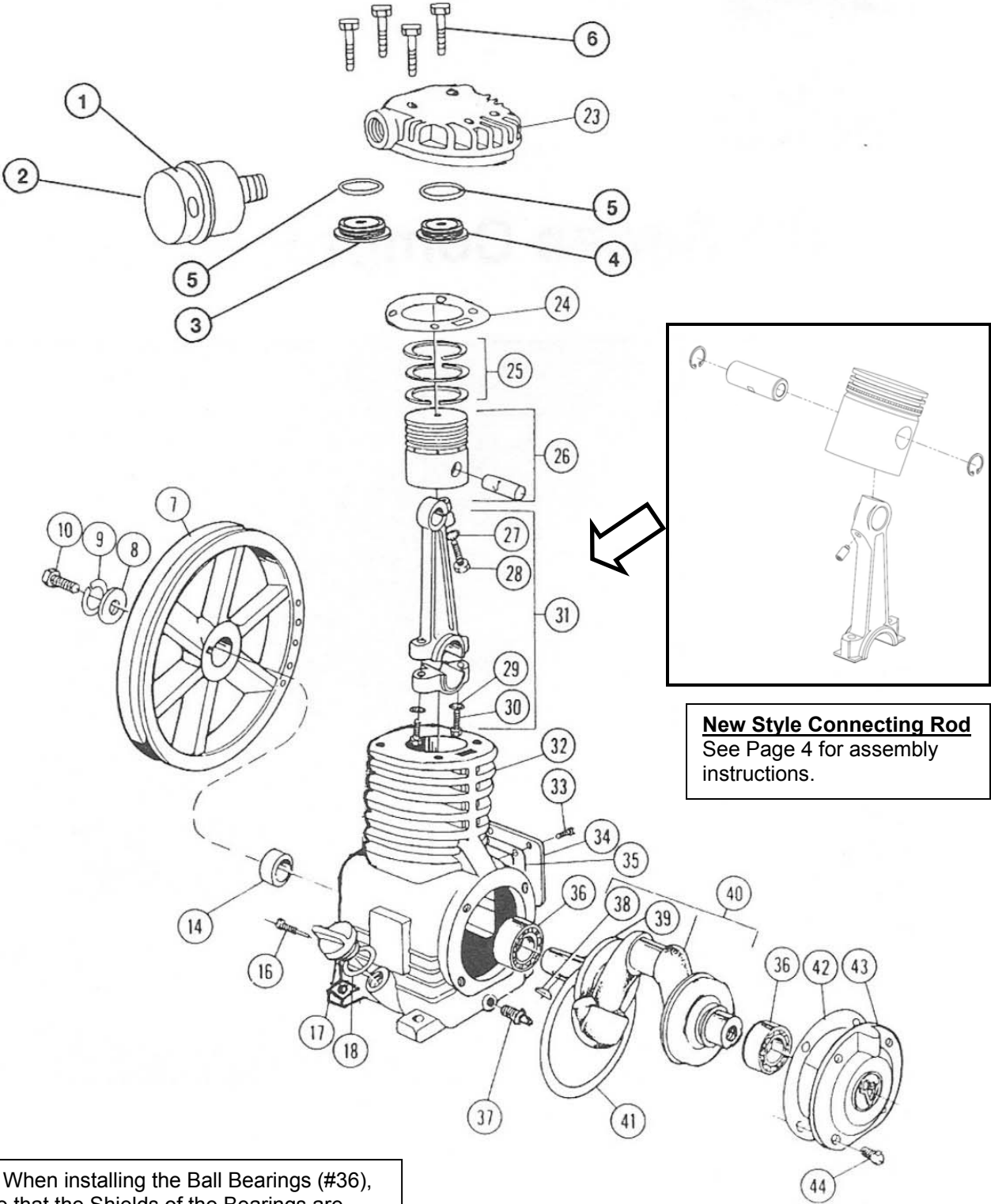
Check for proper oil level prior to using the Pump.

**Service & Maintenance:** Use only Genuine DV Systems Oil and Kits as indicated on Page 3 of this manual.



DV Systems Inc.  
490 Welham Road  
Barrie, Ontario  
L4N 8Z4

Tele: (705) 728-5657  
Fax: (705) 728-4974  
Email: sales@dvsystems.ca  
Web: www.dvsystems.ca



**New Style Connecting Rod**  
See Page 4 for assembly instructions.

**Note:** When installing the Ball Bearings (#36), ensure that the Shields of the Bearings are located towards the outside of the Pump. The open area of the Bearings must face the inside of the Pump, allowing for lubrication by oil from the Crankcase.

The Item Numbers in the chart below refer to the Pump Breakdown on the previous page.

Ref. #:	Qty:	Part #:	Description:	Ref. #:	Qty:	Part #:	Description:
1	1	356-9406	Filter Assembly	27			
2	1	356-9701	Filter Element	28	1	SS-6041	HSSS 1/4-28 x 1/2"
3	1	123-417	Intake Valve Assy	29	2	SS-3674	Shakeproof Lockwasher 5/16"
4	1	123-405	Exhaust Valve Assy	30	2	21741-193	Screw
5	2	123-28	Valve Gasket	31	1	45856-170	Rod + Cap Assy
6	4	SS-39	Head Bolt	32	1	123-9700	Cylinder + Crankcase
7	1	31438-124	Flywheel	33	5	SS-1	HHCS 1/4-20 x 1/2"
8	1	32233-122	Flywheel Washer	34	1	123-11	Inspection Plate
9	1	SS-3607	3/8" Medium Lockwasher	35	1	123-14	Inspection Plate Gasket
10	1	SS-25	HHCS 3/8-16 x 1"	36	2	130-23	Ball Bearing
14	1	130-111	Oil Seal	37	1	SS-1217	3/8 Square Head Plug
16	1	220-6	Oil Pickup Ring Retainer	38	1	SS-1578	Key Number 13, 1 x 3/16
17	1	NCB-303-1	Oil Fill Plug	39	1	225-43	Oil Cup
18	1	SS-2670	O Ring	40	1	123-9400	Crankshaft + Oil Cup Assy
23	1	123-24	Cylinder Head	41	1	32541-115	Oil Throw Ring
24	1	123-26	Cylinder Head Gasket	42	1	38281-110	End Plate Gasket
25	1	KK-9848	Ring Kit - Std	43	1	37331-106	End Plate
26	1	45855-131	Piston and Pin Assy	44	4	SS-12	HHCS 5/16-18 x 3/4"

### Service Kits and Maintenance Items:

PR-20-4: 20 Weight Oil, 4 litre (1 US gallon), suitable for ambient temperatures below 30°C (90°F)  
 PR-30-4: 30 Weight Oil, 4 litre (1 US gallon), suitable for ambient temperatures above 30°C (90°F)  
 OJ2000-K1: Synthetic Oil, 4 litre (1 US gallon)

MK-223: Includes (4) litres of 'PR-20' Oil and (2) '356-9701' Air Filters

VK-123: Valve Kit includes (1) Intake Valve Assembly, (1) Exhaust Valve Assembly, and (2) Valve Gaskets

OK-123: Overhaul Kit includes (1) Oil Seal, (1) Gasket Kit, (1) Ring Kit, and (1) Valve Kit

GK-9405: Gasket Kit includes all Gaskets

### Compressor Pump Torque Values:

Ref. #:	Description:	In Lbs	Ft Lbs	Nm
3, 4	Valves	360	30	40.6
6	Head Bolts	240	20	27.1
10	Flywheel Bolt	240	20	27.1
16	Oil Ring Retainer	144	12	16.2
28	Connecting Rod - Pin End	45	3.75	5.1
30	Connecting Rod - Crank End	228	19	25.7
33	Inspection Cover	72	6	8.1
44	Large End Plate	144	12	16.2

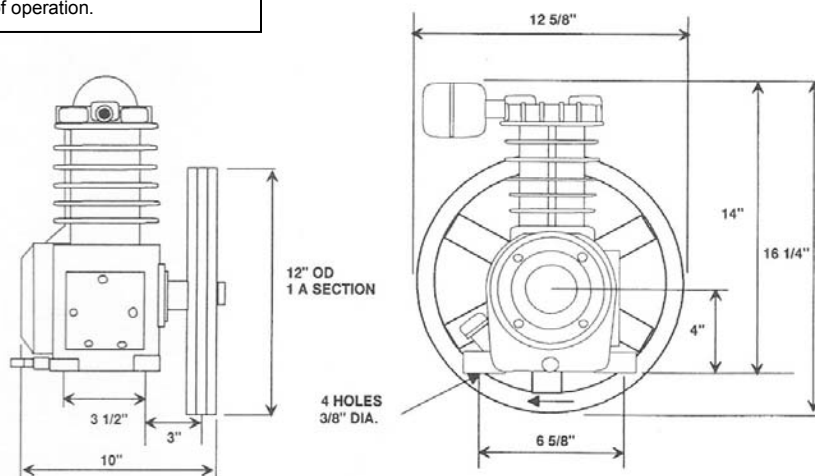
**Note:** Re-torque Head Bolts (#6), Inspection Cover Bolts (#33) and End Plate Screws (#44) after first 10 hours of operation.

### Honing Specifications:

	Standard Hone Dia:	Skirt / Cyl Dia Clearance
Std Cylinder	2.5000" / 2.5005"	.0035" / .0055"

1. Cylinder must be within diametral tolerance at all points. Out-of-round or taper must not exceed 0.005".
2. Hone, 20 minimum to 35 maximum micro-inches of surface roughness.
3. De-burr the sharp corners at the top and bottom of the Cylinder opening with a 1/64" to 1/32" x 30° chamfer.

### Pump Dimensions:



**New Style Connecting Rod Assembly:**

REV.	DATE	REVISION DESCRIPTION	PCH NO.
	6/08/10	21741-194 SCREW & SS-553 L.W. REMOVED	10-28
A	6/20/10	PISTON & PIN ASSEMBLY ADDED	---
B	5/31/11	SET SCREW REPLACES SPRING PIN	11-08
C	7/20/11	TORQUE, LOCTITE AND SET SCREW DESCRIPTION CHANGED	---
D	5/17/12	SS-6041 WAS SS-553 TORQUE TO 45 WAS 20	---

45855-131

NOTCH IN PISTON PIN MUST BE ALIGNED WITH SET SCREW

SS-6041

**ASSEMBLY INSTRUCTIONS:**

1. REMOVE WITH VARSOL ANY OIL OR GREASE FROM CONNECTING ROD AND SET SCREW.
2. ALLOW THE PARTS TO DRY FOR FEW MINUTES.
3. APPLY RED LOCTITE 262 ON THREADS OF SS-553 SET SCREW
4. TIGHTEN SET SCREW TO 45 LBS. IN.
5. ALLOW THE PARTS TO CURE FOR 24 HOURS TO ACHIEVE FULL STRENGTH

PART NO.	DESCRIPTION	QTY.
45855-131	123/223 PISTON & PIN ASSEMBLY	1
45856-110	123/223 CON-ROD ASSEMBLY	1
SS-6041	1/4-28 X 1/2" HS SET SCREW HALF DOG PT	1

NAME OF PROJECT			
123/223 RECIPROCATING PUMP			
DRAWN BY	CHECKED BY	DATE	SCALE
LT		6/08/10	1:1
			DESCRIPTION OF DRAWING
			CON-ROD & SPRING PIN
			45856-170-1
			D

ALL DIMENSIONS ARE IN INCHES

FRACTIONAL DIMENSIONS: ± 1/32

DECIMAL DIMENSIONS: ± 0.05

ANGLES: ± 1°

\*UNLESS OTHERWISE SPECIFIED

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