



# 247 Series Compressor Pump



<b>Model:</b>	<b>Flywheel:</b>
247-4502	
247-510	X

**Specifications:**

Minimum rpm: 300  
Maximum rpm: 900

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: 175 psi

Approx. Oil Capacity of Crankcase: 2.8 litres

HP	150 psi		Cylinders			Flywheel	
	rpm	CFM	Qty	Bore	Stroke	Dia.	Groove
5	550	19.1	2	4.5" and 2.5"	4"	20"	2B
7.5	800	25.8					
13 Gas	800	25.8					

**NOTE**

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

**CAUTION**

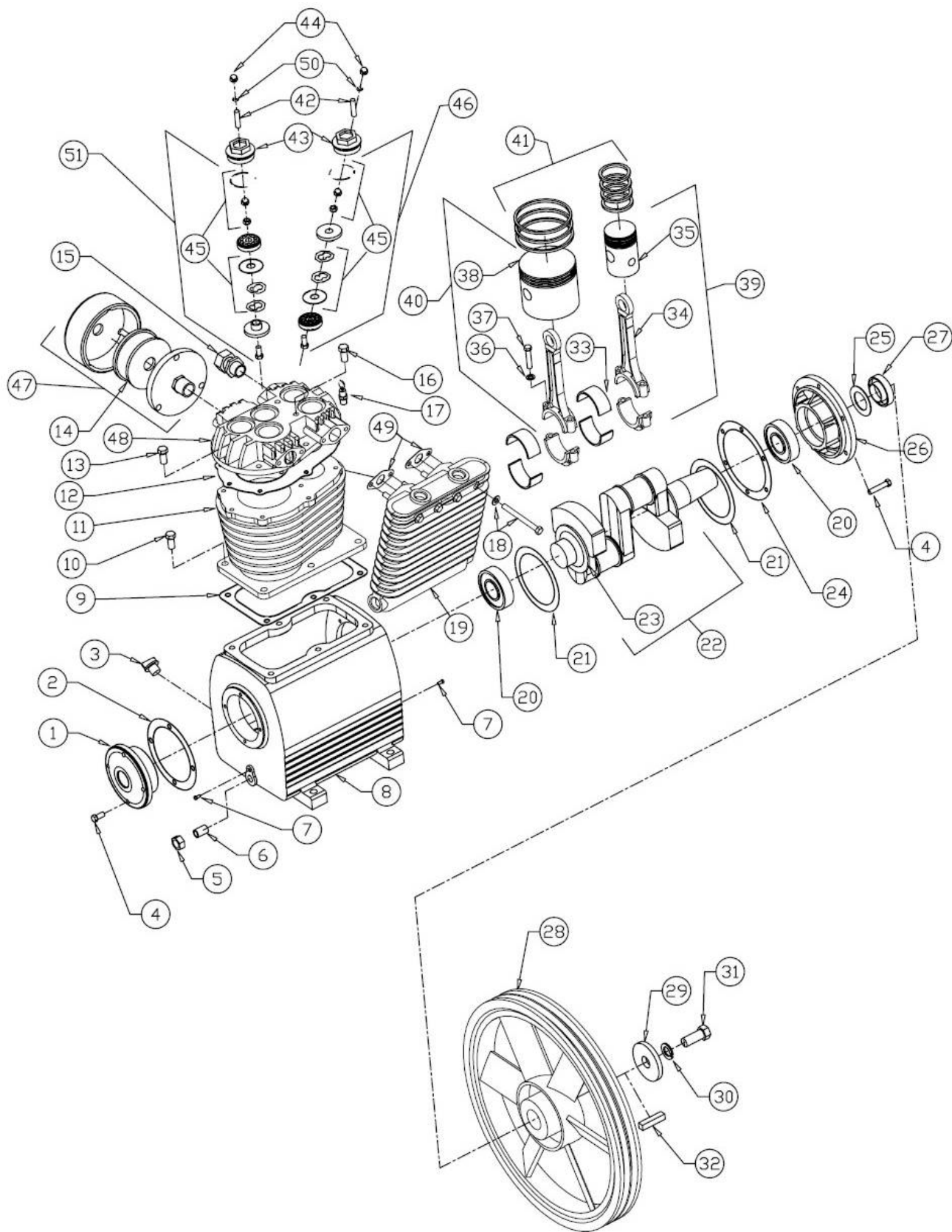
Check for proper oil level prior to using the Pump.

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



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Ref. #:	Qty:	Part #:	Description:	Ref. #:	Qty:	Part #:	Description:
1	1	37331-105	End Plate	26	1	37333-305	1/2"-13 x 1" Hex Head Cap Screw
2	1	432-12	End Plate Gasket	27	1	342-111	Oil Seal
3	1	NCB-303-1	Oil Filler Plug	28	1	432-2-1	Flywheel, 20" OD, 2B
4	10	SS-14	5/15-18 x 1" Hex Head Cap Screw	29	1	432-326	Retaining Washer
5	1	SS-9924	3/8" NPT Pipe Cap	30	1	SS-1508	5/8" Medium Lock Washer
6	1	SS-2108	3/8" x 2" Nipple	31	1	SS-6883	5/8-18 x 1-1/2" Hex Hd Cap Screw
7	2	225-6	Screw	32	1	SS-10482	3/8" x 2" Square Key
8	1	37137-104	Crankcase	33	2	445-474	Bearing Insert
9	1	445-327	Crankcase to Cylinder Gasket	34	2	445-4110-3	Rod + Cap Assy
10	6	SS-48	1/2-13 x 1" Hex Head Cap Screw	35	1	445-4112-1	High Pressure Piston + Pin Assy
11	1	447-325	Cylinder	36	4	SS-9946	Lock Washer
12	1	447-26	Head Gasket	37	4	SS-9947	Connecting Rod Bolt
13	7	SS-26	3/8-16 x 1-1/2" Hex Hd Cap Screw	38	1	445-412-1	Low Pressure Piston + Pin Assy
14	1	357-9701	Air Filter Element	39	1	445-9403	High Pressure Rod + Piston Assy
15	1	ACC-9010	3/4" Compression Fitting	40	1	445-9402	Low Pressure Rod + Piston Assy
16	2	SS-31	3/8-16 x 2-1/2" Hex Hd Cap Screw	41	1	KK-9805	Ring Kit - Standard Size
17	1	TIA-5075	75 psi Safety Valve	42	5	SS-6045	3/8-16 x 1-1/2" Set Screw
18	4	SS-01973	3/8-16 x 3-3/4" Hex Bolt	43	5	445-89	Valve Plug
18	4	SS-1525	3/8" Flatwasher (See Note Below)	44	5	SS-7424	3/8-16 Cap Nut
19	1	447-330	Intercooler	45	1	VRK-247	Valve Repair kit
20	2	235-23	Ball Bearing	46	2	445-4205	Exhaust Valve Assembly
21	2	445-5-1	Oil Throw Ring	47	1	357-9401	Air Filter - Silencer Assembly
22	1	45817-514	Crankshaft Assembly	48	1	447-24	Cylinder Head
23	2	235-43	Oil Cup	49	2	445-196	Intercooler Gasket
24	1	432-13	End Plate Gasket	50			
25	1		Felt Washer (No Longer Available)	51	3	445-4217	Intake Valve Assembly

**Note:** SS-1525 Flatwasher (#18) are only used when replacing an existing Copper Finned Tube Intercooler. They are not required when replacing a Cast Intercooler.

### 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-247: Includes (4) litres of 'PR-20' Oil and (1) '357-9701' Air Filter  
 MKS-247: Includes (4) litres of 'OJ2000' Oil and (2) '357-9701' Air Filters
- VRK-247: Valve Repair Kit includes (5) Valve Discs, (10) Springs, (5) Jam Nuts, (5) Cap Nuts, (5) Brass Cap Nuts, (5) Socket head Cap Screws, and (3) Copper Gaskets. One Kit required.
- OK-247: Overhaul Kit includes (1) 'VRK-247' Valve Repair Kit, (1) 'GK-9404' Gasket Kit, (1) 'KK-9805' Ring Kit, (1) '342-111' Oil Seal, and (2) '445-474' Bearing Insert Kits
- GK-9404: Gasket Kit includes all Gaskets
- KK-9865: Intercooler Kit to include (1) '447-330' Intercooler, (2) '445-196' Gaskets, (4) 'SS-01973' Bolts, and (4) 'SS-1525' Washers

### Compressor Pump Torque Values:

Ref. #:	Description:	In Lbs	Ft Lbs	Nm	Ref. #:	Description:	In Lbs	Ft Lbs	Nm
4	Hex Screw @ Small End Plate	144	12	16.2	31	Flywheel Bolt	1860	155	210
4	Hex Screw @ Large End Plate	144	12	16.2	37	Connecting Rod Bolt	408	34	46
7	Oil Ring Retainer	144	12	16.2	42	Valve Set Screw	180	15	20.3
10	Cylinder to Crankcase	564	47	63.7	43	Valve Plug	1500	125	169
13 & 16	Head Bolts	360	30	40.6	44	Cap Nuts	180	15	20.3
18	Intercooler Bolt	360	30	40.6	45	Valve Assemblies	180	15	20.3

**Note:** Re-torque End Plate Screws (#4), Cylinder Bolts (#10), Head Bolts (#13 & 16), and Intercooler Bolts (#18) after first 10 hours of operation.

## Pump Overhaul Specifications:

### Honing Specifications:

Cylinder:	Standard Hone Dia:	Skirt / Cyl Dia Clearance
LP Cylinder	4.5000" / 4.5005"	.0065" / .0085"
HP Cylinder	2.5000" / 2.5005"	.0025" / .0045"

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.

### Connecting Rod Insert Bearing Specifications:

Insert	Crank Throw Dia:	Part #:
Standard	2.2490" / 2.2485"	445-474
0.02" Oversize	2.2290" / 2.2285"	445-474-020

**Caution:** Pre-lubricate all Crank Throws and Insert Bearing surfaces to prevent Pump tie-up during the first few minutes of operation. Pour oil on the outside of the Connecting Rod and Crank Shoulders. Use the Crankcase oil, do not use grease.

## Pump Dimensions:

