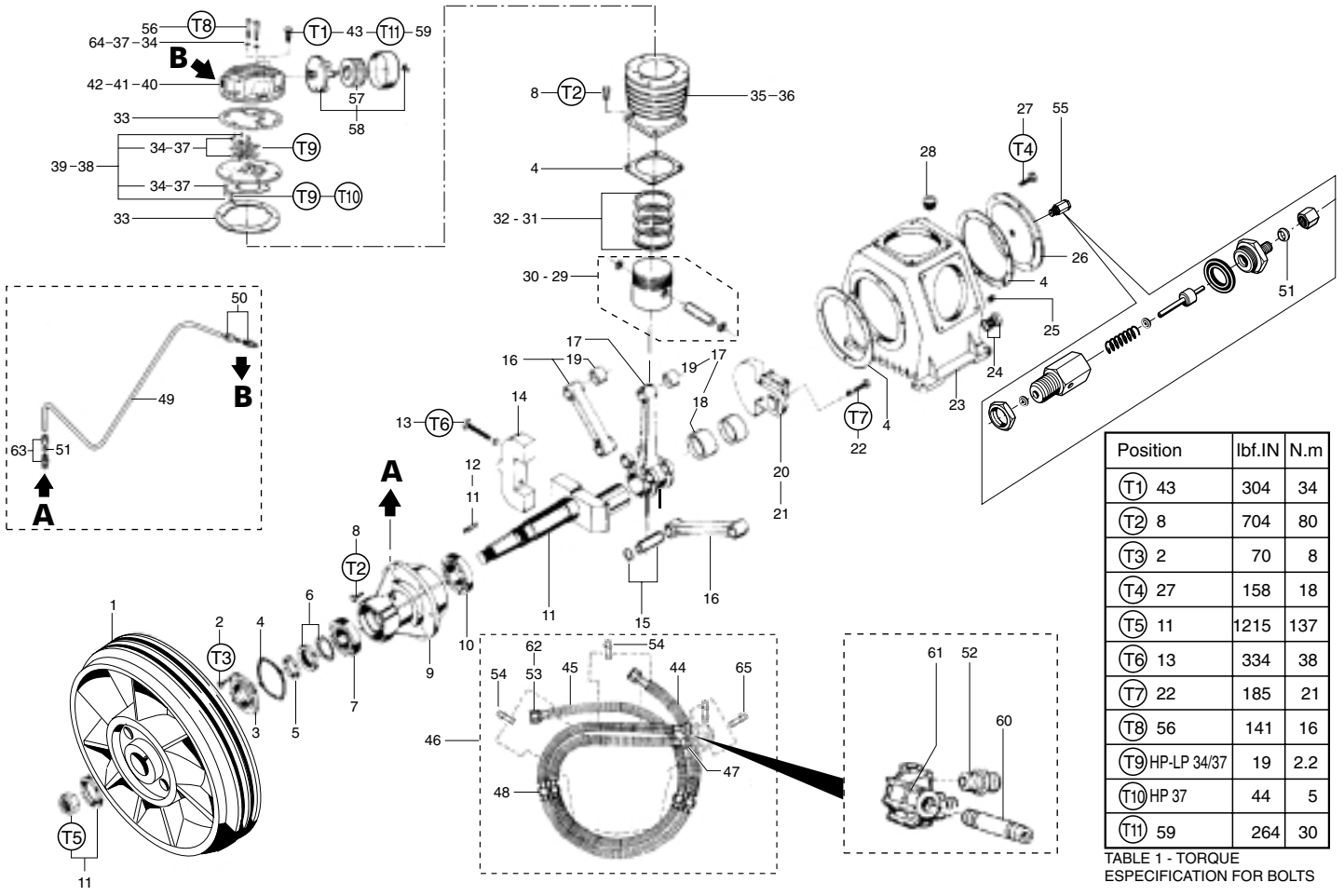
SCHULZ COMPRESSOR MSW 60 MAX

TWO STAGES
175 PSIG

CAST IRON INDUSTRIAL COMPRESSORS

TECHNICAL DATA

MODEL	DISPLACEMENT cfm	MAX. PRESSURE psig	RPM	MOTOR hp	BELT	MOTOR PULLEY 2 POLES		OIL CAP.		WEIGHT IN LBS	DISCHARGE SIZE
						mm	inch	IN ℓ	IN QT		
MSW 60 MAX	60	175	1020	15	2-B	150	5.9	1.5	1.58	276	1" BSP



Position	lbf.IN	N.m
T1 43	304	34
T2 8	704	80
T3 2	70	8
T4 27	158	18
T5 11	1215	137
T6 13	334	38
T7 22	185	21
T8 56	141	16
T9 HP-LP 34/37	19	2.2
T10 HP 37	44	5
T11 59	264	30

TABLE 1 - TORQUE ESPECIFICATION FOR BOLTS

BARE PUMP PARTS

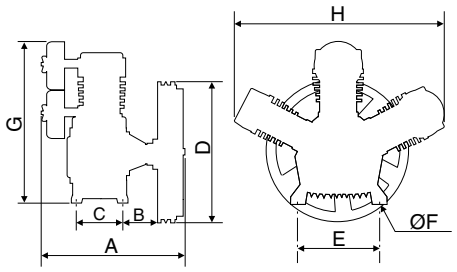
No.	CODE	DENOMINATION	QUANTITY
1	709.1307-0	Flywheel	01
2	*	UNC 1/4" x 3/4" head bolt	04
3	20505001	Flange cover	01
4	830.1033-0	Crankcase gasket kit	01
5	60082501	Oil seal	01
6	830.0932-0	Lock washer and nut	01
7	60154502	33109 bearing	01
8	*	NC 1/2" x 1" head bolt	18
9	20504001	Flange	01
10	60154501	32211 bearing	01
11	830.0933-0	Crankshaft	01
12	60267503	Key	01
13	*	UNF 3/8" x 3" head bolt	02
14	20508005	Crankshaft counter weight	01
15	830.0934-0	Auxiliary connecting rod pin	02
16	30008502	Connecting rod	02
17	830.0930-0	Master connecting rod	01
18	60152502	Connecting rod inner bushing	02
19	60152501	Connecting rod bushing	05
20	30007001	Counter weight with centrifugal mechanism	01
21	830.0937-0	Counter weight kit with centrifugal mechanism	01
22	*	UNF 5/16" x 1.1/4" head bolt	02
23	20501002	Crankcase	01
24	830.0775-0	3/4" oil level sight	01
25	003.0029-2	3/8" plug	01
26	709.1316-0	Crankcase cover	01
27	*	UNC 5/16" x 3/4" head bolt	06
28	003.0031-4	3/4" plug	01
29	60273501	LP 4.3/4" piston	02
30	830.1000-0	HP 90 mm piston	01
31	000.0077-0	LP 90 mm ring kit	01
32	000.0080-0	HP 4.3/4" ring kit	02
33	830.1001-0	Upper gasket kit	01
34	830.1002-0	HP 90 mm valve plate kit	01

No.	CODE	DENOMINATION	QUANTITY
35	709.1306-0	LP 4.3/4" cylinder	02
36	709.1308-0	HP 90 mm cylinder	01
37	830.0955-0	LP 4.3/4" valve plate kit	02
38	809.1028-0	LP 4.3/4" valve plate	02
39	809.1027-0	HP 90 mm valve plate	01
40	709.1272-0	LP 4.3/4" cylinder cover with breather	01
41	709.1390-0	LP 4.3/4" cylinder cover	01
42	709.1303-0	HP 90 mm cylinder cover	01
43	*	LP UNC 3/8" x 1.1/2" head bolt	12
44	709.1322-0/C	No. 1 short intercooler	01
45	709.1322-0/L	No. 2 long intercooler	01
46	709.1322-0	Intercooler kit	01
47	21011004	3/4" nut for intercooler	04
48	21029003	Intercooler holder	02
49	830.0340-5	1/4" crankcase breather tube	01
50	003.0054-3	NPT 1/8" x 1/4" straight connection	01
51	830.0599-8	1/4" ring kit	01
52	21011001	3/4" x 1/2" straight connection	02
53	21011002	3/4" x 3/4" straight connection	02
54	022.0177-0	1/8" LP ASME safety valve	02
55	022.0174-0	Centrifugal unloading valve	01
56	013.0752-0	M6 x 1 x 55 Allen hex bolt	05
57	007.0118-0	Filter element	02
58	007.0116-0	Air filter	02
59	383.0111-0	HP 5/16" x 1.1/2" Allen hex bolt	06
60	21011009	BSPT 3/4" x 100 niple	01
61	20517005	Intercooler adaptor	01
62	003.0111-6	BSP 90° 3/4" elbow	02
63	60259501	Straight fitting	01
64	830.1032-0	Washer kit	01
65	022.0189-0	HP 1/8" ASME safety valve	01
-	709.1323-0	Pulley (not shown)	01

*** Part available in the market - not sold by Schulz**
Note: HP = high pressure LP = low pressure

DIMENSIONS

MSW 60 MAX



	A	B	C	D	E	F	G	H
mm	550	120	218	500	320	14	620	740
inch	21.6	4.8	8.6	19.7	12.6	0.6	24.5	29.1

INSTALLATION AND OPERATION INSTRUCTIONS

INSTALLATION AND LOCATION

1. **Installation:** Install the compressor in a covered, well ventilated area, free of dust, toxic gases, humidity or any other kind of pollution. The compressor should be located no closer than 32" (800mm) from a wall or any other obstacle that could interfere with the air flow through the fan. This distance will also make maintenance easier. Place the compressor on a leveled surface. Rotation of the flywheel must be in the direction of the arrow cast into the flywheel. The maximum ambient temperature recommended while working is 104ºF or 40ºC. If necessary, install an exhaust fan to guarantee fresh air and to dissipate heat.
   Before making the electrical connections, check oil level and top-up lubricating oil. For type of oil, see table at the end of these instructions.
2. **Electrical connection:** The country's valid electrical standards must be followed regarding Low Voltage Electrical Installation.

OPERATION

1. **Initial start procedure:** Before turning on the compressor, check the crankcase oil level. It must be in the middle of the OIL LEVEL SIGHT. As to the type of oil to be used and the recommended change intervals, check at "Lubrication" and as to its volume, check the Technical Data Table.
2. **Start:** Turn on the electrical start key and let your compressor run for about 10 (ten) minutes, what will keep the tank's internal pressure or compressed air around 20 psig. This will optimize a homogeneous lubrication of the parts.

MAINTENANCE

WARNING

Turn off power before servicing and be sure the air tank is unloaded. These instructions are based on normal operating conditions. If the compressor is located in an exceedingly dusty area, increase the frequency of all inspections.

DAILY

- Inspect the compressor visually.
- Check oil level and add some if necessary, before turning the compressor on.
- Drain moisture from the piping system.
- Be sure there is no excessive or unusual vibration or noise.

WEEKLY

- Remove and clean intake air filters; do not wash the filter element.
- Check V-belts for tightness. Belt tension should be adjusted to allow approximately 3/8" to 1/2" (9 to 13 mm) deflection with normal thumb pressure.
- Clean cylinders externally, cylinder head, motor, fan blade, tubing, and tank.
- ASME safety valve should be tested manually to see if it is working properly.

MONTHLY

- Check entire system for air leakage around fittings, etc by using water and soap lather.
- Check the pressure switch operation.
- Check for oil contamination and change it if necessary.

QUARTERLY

- Change the air filter element every 300 working hours or quarterly. (Whichever occurs first).
- Fasten bolts and nuts as required. (See Table 1)
- Change oil more frequently if compressor is located in a very dirty environment.
- **WHILE RUNNING IN A PERIOD OF ABOUT 100 WORKING HOURS THE OIL LEVEL SHOULD BE CAREFULLY CHECKED.**

ANNUALLY

- Test and calibrate the pressure switch, pressure gauge, pilot valve, discharge valve and ASME safety valve according to their own technical standards. These parts must be removed from the tank and pump to be tested.
- Inspect and clean the suction and discharge valve(s) plate(s) every 1000 (one thousand) working hours (whichever occurs first), located between the cylinder and its cover and, if necessary, replace it (them) according to the operation conditions.

LUBRICATION

- The first oil change should be made after 8 hours of operation.
- The second oil change after 40 hours of operation.
- The third and following exchanges should be made after 200 hours of operation, or 60 (sixty) days, whichever occurs first.

NOTE:

Heavy Duty and multi-viscous oils are not adequate for Schulz air compressor's lubrication. The same applies to oils that tend to emulsify.

We recommend good industrial oil for air compressors, with rust and oxidation inhibitors and high viscosity level (from 90 to 95), SAE or ISO, as indicated in the table below:

RECOMMENDED LUBRICANT OILS FOR SCHULZ AIR PUMPS

AMBIENT TEMPERATURE °F (°C)		
Below 32 °F Below 0 °C	**32 °F to 68 °F 0 °C to 20 °C**	**68 °F to 104 °F 20 °C to 40 °C**
SAE 10W or ISO 32	SAE 20W or ISO 68	SAE 30 or ISO 100

DISTRIBUTOR