

M Series compressors

High-speed reciprocating compressors for natural gas applications

A workhorse in field gas applications, our M Series can also provide up to 6,000 psig for CNG vehicle refueling. The compact, packager-friendly design features a “through shaft” fan adapter that allows the cooler to be driven by the pump end of the compressor, shortening overall skid size and simplifying the piping design. The M Series compressors are designed to run continuously for extended periods of time while unattended. These high-speed units forgive non-reversals through unique wrist-pin needle bearing design. GE’s comprehensive line-up of double-acting and stepped cylinders offer maximum staging flexibility.

Performance features

Type

Horizontal balanced opposed, one or two throws with double acting and/or stepped cylinder sets to provide up to four stages of compression.

Frame

Heavy-wall, one-piece alloy iron casting with reinforcing ribs. Removable alloy iron crosshead guides are surrounded by large cooling passages and include an oil level dip stick.

Crankshaft

Forged-steel design has integral counterweights and force lubricated tri-metal sleeve type main bearings.

Cylinders

A wide range of gas-cooled cylinder options is available. Cylinder arrangements include double-acting, tandem, and stepped piston designs. Non-lube designs are available for special applications. Cylinders are available with MAWP up to 6,000 psig.

Compressor valves

Steel valve seats and guards; MTX or HTCX valve plates are standard. Valve springs, lifts and plates can be tailored to meet your performance conditions.

Piston/piston rods

Hard anodized aluminum alloy or cast iron pistons. Weight is precisely controlled during manufacturing to eliminate the need to match parts in the field. Carbon-filled Teflon piston rings are standard for most applications. Stainless steel 1.125" diameter tubular piston rods contain through-bolt construction. Full-floating vented sealing and wiper packing.

Connecting rods

Forged steel with precision insert type bearings on crank end and roller bearings on pin end.

Crossheads

Single-piece aluminum crossheads contain cast iron inserts and steel crosshead pins.

Compressor lubrication

Gear type lube oil pump is driven by the crankshaft. Standard Lubrication system includes a non-bypassing spin-on lube oil filter, oil pump relief valve and thermostat.

Packing and cylinder lubrication

Integral single-pump force-feed lubricator contains a block distribution system, a cycle indicator and a no-flow shutdown switch. Stainless steel tubing includes plated fittings piped to the cylinders and packing. Lubrication feed rate is fully adjustable.

Standard testing

Compressor mechanical run test, hydrostatic test of all cylinders and post-test inspection meet GE standards.

Standard accessories

Specialized tools, where applicable, are included in the toolbox.

Optional items

Variable-volume clearance pockets, CSA or XP no-flow switches and vibration switches, export boxing, immersion oil heaters, flywheels, drive couplings, oil coolers and fan drives.

Throw configurations		
Compressor throws	1	2
Max. BHP (kW)	60 (45)	120 (90)
Frame weight lbs (kg) dry*	750 (340)	850 (386)
Frame length inches (cm)*	25.6 (65)	25.6 (65)
Frame width inches (cm)*	40.3 (102.4)	49.5 (125.7)
Frame height inches (cm)	26.6 (67.6)	26.6 (67.6)

Stroke configuration	
Stroke inches (mm)	3.0 (76.2)
Max. rated speed (rpm)	1,800

Heavy duty running gear		
Rod load - tension	6,000 lbs-f	26.69 kN
Rod load - compression	6,000 lbs-f	26.69 kN
Combined rod load	12,000 lbs-f	53.38 kN
Piston rod diameter	1.125 inches	28.6 mm
Crankshaft material	F.S.	
Connecting rod material	F.S.	
Crankpin bearing diameter	2.922 inches	74.22 mm
Crankpin bearing width	1.375 inches	34.9 mm
Main bearing diameter	3.0 inches	76.2 mm
Main bearing width	1.875 inches	47.6 mm
Connecting rod pin	Roller bearing	

* without cylinders

F.S. = Forged Steel

D.I. = Ductile Iron



Model nomenclature

M301 = M, 30, 1,

Model = Frame Stroke (in) Throws

	Cylinders for the M Frames				MAWP PSIG	Cylinder cooling	Material	Flange dia inch	Flange rating	Valves	VVCP		
	Series	Cylinder bore - inches											
Double acting	M30	2.50	3		1,440	Gas	D.I.	1.5	1,500	4	No		
	M30	2.50	3		1,250	Gas	D.I.	1.5	600	4	No		
	M30	3.50	4		1,250	Gas	D.I.	3	600	4	Yes	a	
	M30	4.50	5		1,250	Gas	D.I.	3	600	4	Yes	a	
	M30	5.50			1,000	Gas	D.I.	3	600	4	Yes	a	
	M30	6	6.50		500	Gas	D.I.	4	300	4	Yes	b	
	M30	7.50	8		500	Gas	D.I.	4	300	8	Yes	b	
	M30	8	9		300	Gas	D.I.	4	300	8	Yes	b	
Stepped	Crank end single acting	M30	2.50	3		1,250	Gas	C.I.	1.5	600	2	No	c
		M30	3.50	4	5	1,250	Gas	C.I.	1.5	600	2	No	c
	Head end single acting	M30	4	5		1,250	Gas	D.I.	1.5	600	2	Yes	d
		M30	5.50			750	Gas	D.I.	1.5	600	2	Yes	d
		M30	6.50	7.50		500	Gas	D.I.	3	300	4	Yes	e
		M30	8			300	Gas	D.I.	3	300	4	Yes	e
	Tandem (CNG)	SACE	M30	2.50	3		3,500	Gas	F.S.	1	6,000	2	No
M30			2.50	3		2,500	Gas	D.I.	1.5	1,500	2	No	
SAHE		M30	1.25			6,000	Gas	F.S.	1	6,000	1	No	
		M30	1.50			6,000	Gas	F.S.	1.25	6,000	1	No	

L = Nitrided Liner - field replaceable
NL = No Liner

D.I. = Ductile Iron
F.S. = Forged steel
C.I. = Cast Iron

SAHE = Tandem cylinder - Single Acting Head End
SACE = Tandem cylinder - Single Acting Crank End

a, b, c, etc. Designates cylinders having identical XYZ flange dimensions to assist interchangeability and package piping standardization
(1) The 1.25" piston can be trimmed to add 14% or 25% additional clearance
(1) The 1.50" piston can be trimmed to add 10% or 20% additional clearance

Designed for flexibility

- The M Series is backed by 100 years of GE compressor design experience
- Part of a complete line of reciprocating compressors featuring advanced technology and work-proven designs
- Many cylinders have identical X, Y, and Z flange locations, allowing packages to be reconfigured without any changes to the piping and bottles
- Over 18,000 GE high-speed reciprocating compressors have been built to date

All GE high-speed reciprocating compressors are packaged, serviced and maintained by a worldwide network of authorized packagers and distributors.

Operating benefits

- Compressor is easily reconfigured to meet your changing requirements
- Reduces lifecycle cost and increases production
- Reduces required inventory of machinery and spare parts
- Higher efficiency, lower fuel or electricity consumption
- Lower cost of reconfiguration
- Greater utilization of driver power over a wide range of conditions

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