



Air Starters

3BMG/5BMG Series



For engine displacement of: Diesel—up to 500 CID (8 liters)
Carburated—up to 1000 CID (16 liters)

Features/Benefits

- All models sealed for use in air or gas applications
- Inertia drive for fast, reliable starts
- Compact, inline design
- 9.5 hp motor on 5BMG;
8.4 hp motor on 3BMG
- Back ports for injection lubricating

Versatile

- 4 inlet, 4 exhaust, and 12 drive housing orientations
- Fits a wide range of small and medium size engines
- 90-150 psi (6.2-10.3 bars) operation

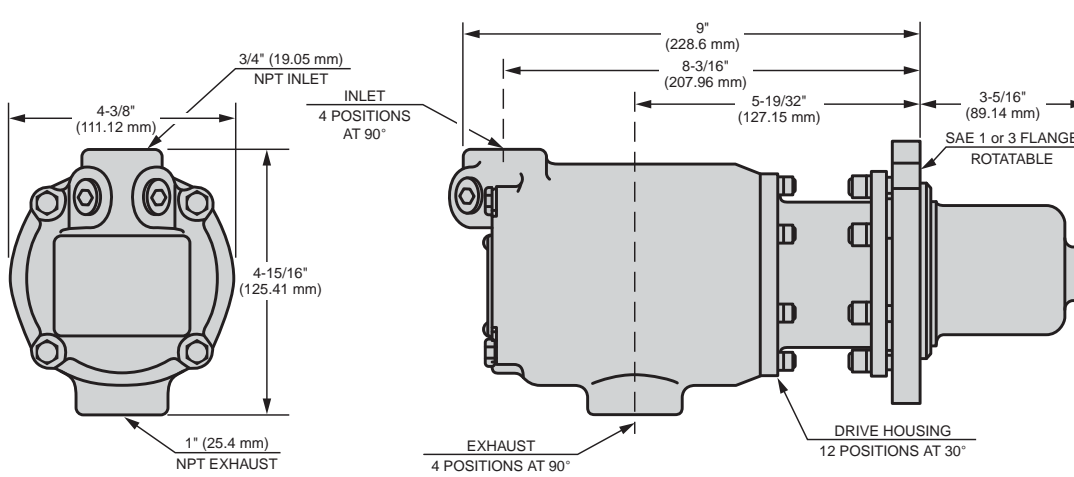


Industry applications ideal for the 3BM/5BM Series starters: oil and gas production, shipping, trucking.



Air Starters

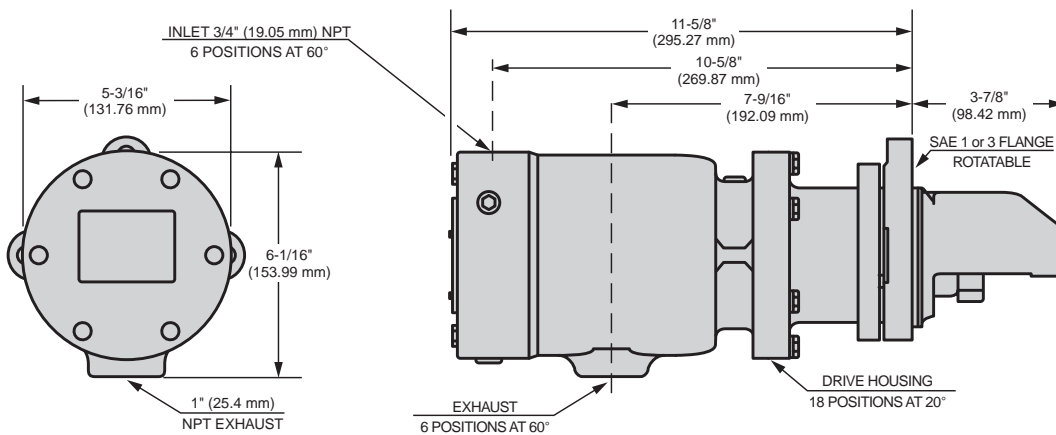
3BMG Series DIMENSIONS



Weight lbs (kg)	
3BMG	18 (8.2)



5BMG Series DIMENSIONS



Weight lbs (kg)	
5BMG	35 (15.9)



3BMG/5BMG Series

3BMG Series Performance Information

Pressure PSI (bar)	Breakaway Torque ft-lb (Nm)	Speed @ Max HP RPM	Max Power HP (kw)	Flow @ Max HP SCFM (L/s)
90 (6.2)	23 (31)	2100	4.8 (4)	150 (71)
120 (8.3)	28 (38)	2500	6.7 (5)	220 (104)
150 (10.3)	36 (49)	3200	8.4 (6)	325 (153)

5BMG Series Performance Information

Pressure PSI (bar)	Breakaway Torque ft-lb (Nm)	Speed @ Max HP RPM	Max Power HP (kw)	Flow @ Max HP SCFM (L/s)
90 (6.2)	28 (38)	2100	5.0 (4)	165 (78)
120 (8.3)	35 (47)	2500	7.5 (6)	220 (104)
150 (10.3)	42 (57)	2700	9.5 (7)	310 (146)

3BMG Series Number of Starts per Tank

(Assuming 1-Second Crank Time @ 90 PSI)

300	35	52	70	87	105	122	140	157	20	Max Tank Pressure (psi)	Max Tank Pressure (bar)	
270	31	46	61	76	92	107	122	138	18			
240	26	39	52	65	79	92	105	118	16			
210	22	33	44	55	65	76	87	98	14			
180	17	26	35	44	52	61	70	79	12			
150	13	20	26	33	39	46	52	59	10			
120	9	13	17	22	26	31	35	39	8			
90	4	7	9	11	13	15	17	20	6			
	40	60	80	100	120	140	160	180				Gallons Liters
	151	227	302	378	454	529	605	680				
	Tank Size											


5BMG Series Number of Starts Per Tank

(Assuming 1-Second Crank Time @ 90 PSI)

300	32	48	63	79	95	111	127	143	20	Max Tank Pressure (psi)	Max Tank Pressure (bar)	
270	28	42	56	69	83	97	111	125	18			
240	24	36	48	60	71	83	95	107	16			
210	20	30	40	50	60	69	79	89	14			
180	16	24	32	40	48	56	63	71	12			
150	12	18	24	30	36	42	48	54	10			
120	8	12	16	20	24	28	32	36	8			
90	4	6	8	10	12	14	16	18	6			
	40	60	80	100	120	140	160	180				Gallons Liters
	151	227	302	378	454	529	605	680				
	Tank Size											

3BMG/5BMG Series Accessories

See catalog pages J-1 to J-18 for detailed Accessory information.

IR Part #	Description	Picture
1 3BM-WM07	3/4" Muffler	
2 3BM-A674	1" Muffler	
3 150BMP-1051B	1/4" 12 V Solenoid Valve	
4 150BMP-2451B	1/4" 24 V Solenoid Valve	
5 NL-24-8	In-Line Lubricator	
6 HDL2 (Stationary)	3/8" NPT Lubricator (1.3 cc)	
7 HDL3 (Transportation)	3/8" NPT Lubricator (0.4 cc)	
8 SMB-618	Push Button Valve	
9 SMB-G618	Push Button Valve For Natural Gas Operation	

IR Part #	Description	Picture
10 SRV125T	1-1/4" Relay Valve For Vehicular Applications	
11 SRV100	1" Relay Valve For Stationary Applications	
12 SRV150SS	1-1/2" Gas Rated Relay Valve	
13 150BMP-1058	Gladhand	
14 150BMP-1064	1/8", 150 psi Pressure Gauge	
15 ST900-267-16	1" Strainer (300 Mesh)	
16 ST900-266-16	1" Strainer Element (300 Mesh)	
17 150BM-A735	Road Splash Deflector	

Red item numbers correspond to numbers in diagrams on page E-5.

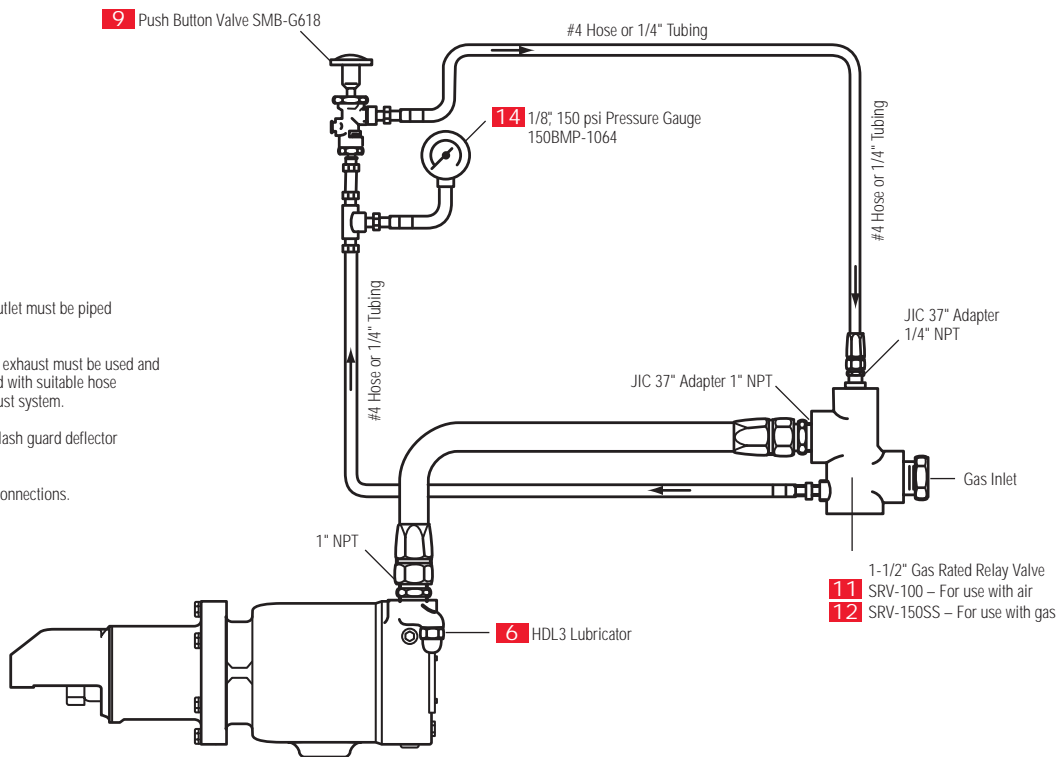
3BMG/5BMG (Gas) Stationary Installation

For gas operation the exhaust outlet must be piped away to a safe location.

For natural gas operation, piped exhaust must be used and drive housing vent plug replaced with suitable hose which connects into piped exhaust system.

For air operation a muffler or splash guard deflector must be used.

NOTE: Use sealant on all pipe connections.



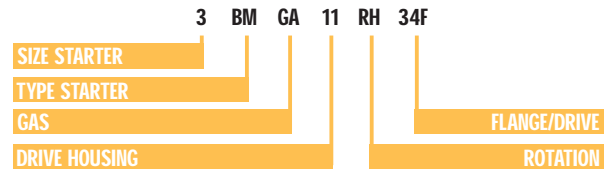
3BMG Series Active Model Numbers

Starter Model	Flange Type	Drive Number	Pinion Specifications
3BMGA11RH-1F	SAE01	3BM-299-1	12T, 13B, 8/10P, 20PA, RH, 1.700"OD
3BMGA11RH-12F	SAE03	3BM-299-1	12T, 13B, 8/10P, 20PA, RH, 1.700"OD
3BMGA11RH-34F	SAE01	3BM-299-3	10T, 11B, 8/10P, 20PA, RH, 1.575"OD
3BMGA11RH-6F	SAE01	3BM-299-4	9T, 10B, 8/10P, 20PA, RH, 1.45"OD
3BMGA11RH-60F	SAE01	3BM-299-071	10T, 11B, 10/12P, 20PA, RH, 1.267"OD
3BMGA11RH-61F	Mitsubishi	3BM-299-85	11T, 12B, 3.5MOD, RH

5BMG Series Active Model Numbers

Starter Model	Flange Type	Drive Number	Pinion Specifications
5BMGA53RH-1F	SAE03	5BM-299-31	11T, 12B, 6/8P, 20PA, RH, 2.25"OD
5BMGA53RH-2F	SAE03	5BM-299-9	12T, 13B, 8/10P, 20PA, RH, 1.825"OD
5BMGA56RH-3F	SAE01	5BM-299-33	10T, 11B, 8/10P, 20PA, LH, 1.575"OD
5BMGA56RH-49F	SAE01	5BM-299-28	9T, 9.5B, 3MOD, 15PA, RH
5BMGA56RH-5F	SAE01	5BM-299-9	12T, 13B, 8/10P, 20PA, RH, 1.825"OD

3BMG/5BMG SERIES MODEL CODING



3BMG/5BMG Series

This chart is a condensed list of engines that can be cranked with an IR starter. For a complete list, please contact IR.

3BMG/5BMG Series Engine Selection Guide

Manufacturer	Engine	CID	Liter	CYL	Type	Vane Starter
CUMMINS	3B2.9	177	2.9	3	Diesel	3BMGA11RH-60F
	4B3.9	238	3.9	4	Diesel	3BMGA11RH60F
DETROIT DIESEL	2-53	106	1.7	2	Diesel	3BMGA11RH-12F
	6-53	318	5.2	6	Diesel	5BMGA56RH2
DORMAN	2LB	195	3.2	2	Diesel	3BMGA11RH-12F
	3LB	292	4.8	3	Diesel	3BMGA11RH-12F
INT HARVESTER	D282	282	4.6	6	Diesel	5BMGA56RH-3F
	RD372	372	6.1	6	Nat. Gas	3BMGA11RH-12F
	RD450	450	7.4	6	Nat. Gas	3BMGA11RH-12F
	UD236	236	3.9	6	Diesel	5BMGA56RH-3F
ISUZU	QD100					3BMGA11RH-61F
	QD145					3BMGA11RH-61F
WAUKESHA	140GZ	554	9.1	6	Nat. Gas	5BMGA53RH-2F
	140HK	525	8.6	6	Nat. Gas	5BMGA53RH-2F
	195GL	302	4.9	6	Nat. Gas	3BMGA11RH-34F
	6BL	245	4	6	Nat. Gas	3BMGA11RH-34F
	6SRK	517	8.5	6	Nat. Gas	5BMGA53RH-2F
	V1K	334	5.5	4	Nat. Gas	3BMGA11RH-12F
	V1L	316	5.2	4	Nat. Gas	3BMGA11RH-12F
	VRD283	283	4.6	6	Diesel	3BMGA11RH-1F
	VRD310	310	5.1	6	Diesel	3BMGA11RH-1F
	VRD330	426	7	6	Diesel	3BMGA11RH-1F
	VRG283	283	4.6	6	Nat. Gas	3BMGA11RH-34F
VRG310	310	5.1	6	Nat. Gas	3BMGA11RH-34F	
WHITE ENGINES	IX4E	188	3.1	4	Diesel	3BMGA11RH-1F
	RXC	529	8.7	6	Nat. Gas	5BMGA53RH-2F
	RXLD	558	9.1	6	Nat. Gas	5BMGA53RH-2F
	RXLX	529	8.7	6	Nat. Gas	5BMGA53RH-2F
	TDXC	501	8.2	6	Nat. Gas	5BMGA53RH-2F



3BMG/5BMG Series Air Starters

3BMG/5BMG Series Genuine Ingersoll-Rand Replacement Kits

Tune Up Kit
Part Number

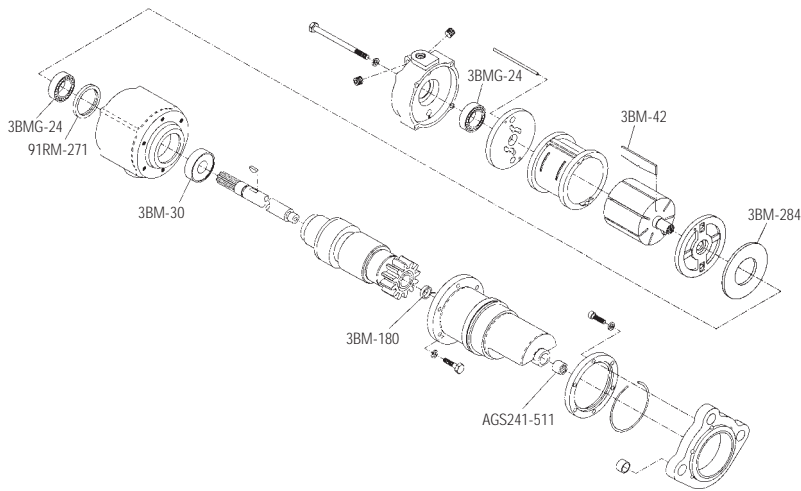
Description

3BM-TK2

3BM Tune Up Kit

5BM-TK2

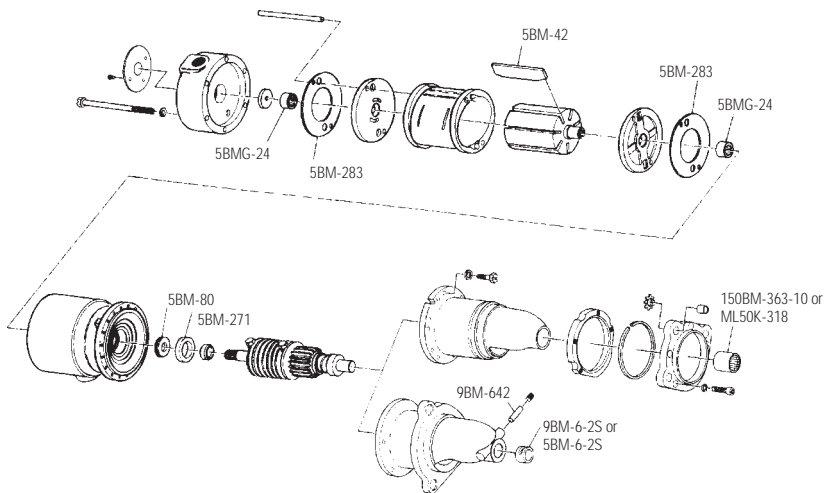
5BM Tune Up Kit



Exploded View of 3BM-TK2 Part Location



3BMG-TK2 Parts



Exploded View of 5BM-TK2 Part Location



5BMG-TK2 Parts