

IronHorse® Shaft Mount Gearboxes



IronHorse Shaft Mount Gearbox



IronHorse Shaft Mount Gearbox Accessories

Gearbox Overview

Gearboxes, also known as enclosed gear drives or speed reducers, are mechanical drive components that drive a load at a reduced fixed ratio of the motor speed. The output torque is also increased by the same ratio, while the horsepower remains the same (less efficiency losses.) For example, a 10:1 ratio gearbox outputs approximately the same motor output horsepower, motor speed divided by 10, and motor torque multiplied by 10.

IronHorse® Shaft Mount Gearboxes feature shafts and gears manufactured from the highest grade steel, case hardened and precision ground to AGMA standards for long lasting durability. Housings are 100% cast iron to provide industrial grade protection for the life of the unit. Shafts are sealed with reinforced double lip to protect against contamination and prevent oil from escaping. Premium ball and tapered roller bearings provide smooth operation and lower noise (bushings are available, but not included). Extended gear centers ensure tooth contact and provide consistent operation. Bore type is tapered.

Features

- 9:1, 15:1 and 25:1 ratios
- Frame sizes 2 to 5
- Industrial grade cast-iron housings protect gearing for life
- Extended gear centers and tooth contact
- Metal reinforced double lip, spring loaded oil seals
- Dimensional drop-in for all major makes
- Torque arm included

Applications

- Use with electric motors for reducing output speed, increasing torque, changing drive direction, and/or running two loads from one motor.
- Use for belt conveyors, screw conveyors, or material handling

IronHorse® Shaft Mount Gearboxes							
Part Number	Price	Ratio	Actual Ratio	Max RPM	Frame Size	Output Bore (max)	Weight (lb)
SMR2-09		9:1	9.36	1872	2	1-15/16"	68
SMR2-15		15:1	14.04	1895			
SMR2-25		25:1	23.37	1986			
SMR3-09		9:1	9.21	1842	3	2-3/16"	106
SMR3-15		15:1	14.87	1859			
SMR3-25		25:1	24.75	2104			
SMR4-09		9:1	9.21	1842	4	2-7/16"	156
SMR4-15		15:1	15.13	1891			
SMR4-25		25:1	24.38	2072			
SMR5-09		9:1	9.10	1820	5	2-15/16"	204
SMR5-15		15:1	15.40	1848			
SMR5-25		25:1	25.56	2045			

Output Shaft Overhung Load Ratings												
Frame Size	Shaft Size	Overhung Load (lb) at Various RPMs										
		10	20	30	50	80	100	120	140	160	180	200
2	1-7/16"	2000	1510	1270	1010	840	820	720	720	710	710	700
	1-15/16"	1750	1320	1110	890	730	710	630	630	620	620	610
3	1-15/16"	5400	4250	3680	3050	2620	2440	2310	2210	2110	2040	1980
	2-3/16"	5240	4120	3570	2960	2540	2370	2240	2140	2050	1980	1920
4	2-3/16"	6520	5180	4510	3800	3230	3000	2830	2710	2600	2510	2430
	2-7/16"	6360	5060	4410	3710	3160	2930	2770	2640	2530	2450	2370
5	2-7/16"	7460	5860	5080	4280	3690	3450	3270	3110	2980	2880	2790
	2-15/16"	7060	5540	4800	4040	3490	3260	3090	2940	2820	2720	2640

IronHorse® Shaft Mount Gearboxes

Mechanical Ratings

IronHorse® Shaft Mount Gearboxes Mechanical Ratings									
Model	Service Class I			Service Class II			Service Class III		
	Power (hp)	Output (RPM)	Output Torque (lb-in)	Power (hp)	Output (RPM)	Output Torque (lb-in)	Power (hp)	Output (RPM)	Output Torque (lb-in)
SMR2-09	7.5	78-105	5434-4037	5	78-110	3658-2594	3	58-110	2952-1556
	10	110-200	5188-2853	7.5	115-200	3722-2140	5	105-200	2717-1427
SMR2-15	2	16-24	7065-4710	1.5	18-24	4710-3532	1.5	26-34	3261-2493
	3	26-45	6521-3768	2	24-34	4710-3324	2	38-58	2975-1949
	5	46-74	6143-3819	3	38-70	4462-2422	3	58-100	2923-1695
	7.5	78-105	5434-4037	5	70-105	4037-2691	5	105-140	2691-2018
	10	105-140	5382-4037	7.5	110-140	3853-3028	—	—	—
SMR2-25	0.5	4-6	7065-4710	0.33	4-5	4663-3730	0.25	4-5	3532-2826
	0.75	6-8	7065-5298	0.5	6-8	4710-3532	0.33	6-8	3108-2331
	1	8-10	7065-5652	0.75	8-12	5298-3532	0.5	8-12	3532-2355
	1.5	12-16	7065-5298	1	12-16	4710-3532	0.75	12-16	3532-2649
	2	16-24	7065-4710	1.5	18-24	4710-3532	1	16-24	3532-2355
	3	26-45	6521-3768	2	24-34	4710-3324	1.5	26-34	3261-2493
	5	46-74	6143-3819	3	38-70	4462-2422	2	38-58	2975-1949
SMR3-09	7.5	78-85	5434-4987	5	70-85	4037-3324	3	58-85	2923-1995
	10	78-105	7246-5382	7.5	85-110	5035-3722	5	74-105	3856-2817
	15	110-140	7707-6055	10	110-150	5188-3804	7.5	110-140	3891-3057
SMR3-15	20	150-200	7609-5707	15	160-200	5350-4280	10	150-200	3804-2853
	3	28-30	6055-5652	2	16-24	7065-4710	2	24-38	4710-2975
	5	32-50	8831-5652	3	26-46	6521-3686	3	40-70	4239-2422
	7.5	52-74	8151-5728	5	50-74	5652-3819	5	74-105	3819-2691
	10	78-105	7246-5382	7.5	78-105	5434-4037	7.5	110-140	3853-3028
	15	110-140	7707-6055	10	100-140	5652-4037	—	—	—
SMR3-25	0.75	4-5	10597-8477	0.5	4-5	7065-5652	0.5	6-7	4710-4037
	1	6-7	9419-8074	0.75	6-7	7065-6055	0.75	8-10	5298-4239
	1.5	8-10	10597-8477	1	8-10	7065-5652	1	10-16	5652-3532
	2	12-16	9419-7065	1.5	12-16	7065-5298	1.5	18-24	4710-3532
	3	18-30	9419-5652	2	16-24	7065-4710	2	24-38	4710-2975
	5	32-50	8831-5652	3	26-46	6521-3686	3	40-70	4239-2422
	7.5	52-74	8151-5728	5	50-74	5652-3819	5	74-85	3819-3324
	10	78-85	7246-6649	7.5	78-85	5434-4987	—	—	—
SMR4-09	15	58-80	14616-10597	15	90-115	9511-7443	7.5	58-78	7379-5487
	20	80-110	14219-10276	20	120-140	9511-8152	10	80-115	7133-4962
	25	100-140	14129-10092	25	150-200	9511-7133	15	120-200	7133-4280
	30	120-200	14267-8560	—	—	—	—	—	—

Load Classification Numbers				
Service Class	Service Factor	Total Operation Per Day		
		Up to 3 Hours	3 to 10 Hours	Over 10 Hours
I	1.0	Moderate Shock Load	Uniform Load	—
II	1.4	Heavy Shock Load	Moderate Shock Load	Uniform Load
III	2.0	—	Heavy Shock Load	Moderate Shock Load

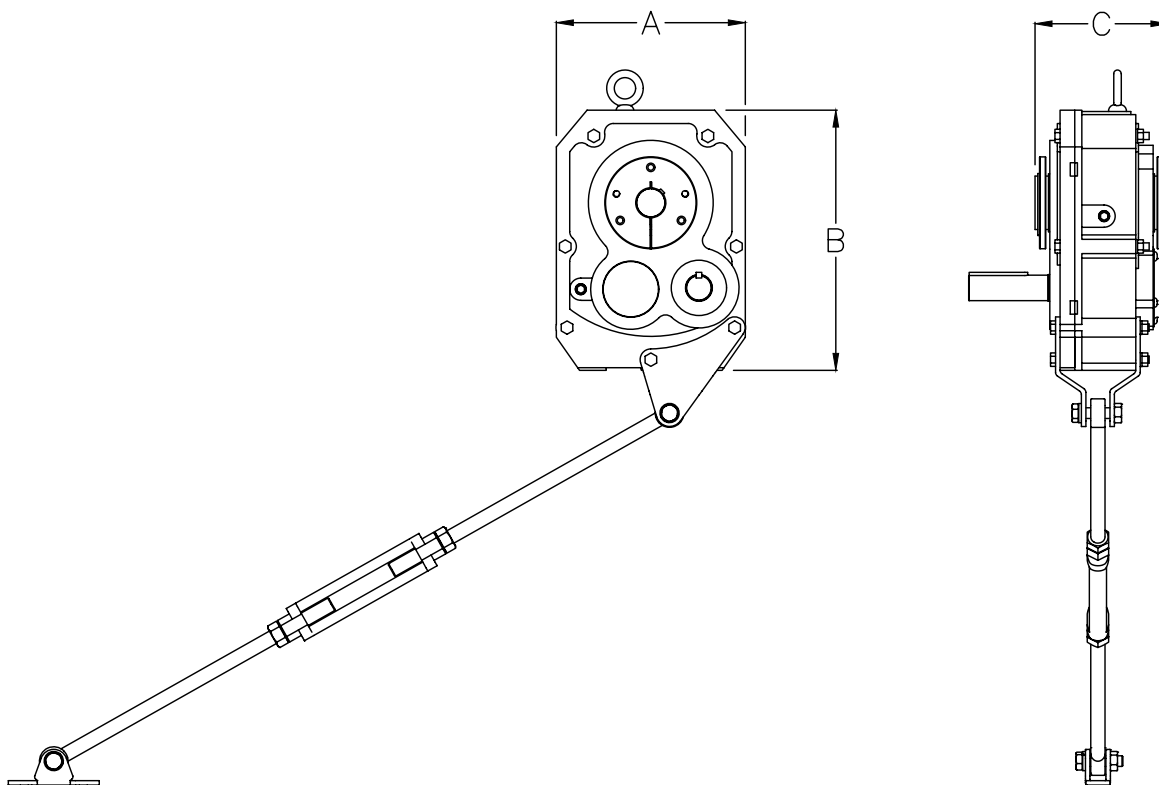
IronHorse® Shaft Mount Gearboxes

Mechanical Ratings

IronHorse® Shaft Mount Gearboxes Mechanical Ratings									
Model	Service Class I			Service Class II			Service Class III		
	Power (hp)	Output (RPM)	Output Torque (lb-in)	Power (hp)	Output (RPM)	Output Torque (lb-in)	Power (hp)	Output (RPM)	Output Torque (lb-in)
<u>SMR4-15</u>	5	18-24	15699-11774	3	14-22	12111-7707	3	20-34	8477-4987
	7.5	26-34	16303-12467	5	24-34	11774-8311	5	38-54	7436-5233
	10	38-54	14873-10466	7.5	38-54	11154-7849	7.5	58-80	7308-5298
	15	58-80	14616-10597	10	54-80	10466-7065	10	80-140	765-4037
	20	80-110	14219-10276	15	85-115	9973-7372	—	—	—
	25	100-140	14129-10092	20	110-140	10276-8074	—	—	—
<u>SMR4-25</u>	1	4-5	14129-11303	0.75	4-5	10597-8477	0.5	4-5	7065-5652
	1.5	5-7	16955-12111	1	5-6	11303-9419	0.75	5-6	8477-7065
	2	6-8	18839-14129	1.5	6-8	14129-10597	1	6-8	9419-7065
	3	10-14	16955-12111	2	10-12	11303-9419	1.5	10-12	8477-7065
	5	16-24	17551-11774	3	14-22	12111-7707	2	14-18	8074-6280
	7.5	26-34	16303-12467	5	24-34	11774-8311	3	20-34	8477-4987
	10	38-54	14873-10466	7.5	38-54	11154-7849	5	38-54	7436-5233
	15	58-80	14616-10597	10	54-85	10466-6649	7.5	58-85	7308-4987
<u>SMR5-09</u>	20	80-85	14129-13298	—	—	—	—	—	—
	25	70-95	20184-14873	20	85-115	13427-9925	15	85-115	10071-7443
	30	85-115	19947-14743	25	105-125	13587-11413	20	115-200	7443-4280
<u>SMR5-15</u>	40	110-200	20752-11413	30	125-200	13696-8560	—	—	—
	7.5	22-24	19267-17661	7.5	24-34	17661-12467	5	24-34	11774-8311
	10	24-34	23548-16622	10	38-54	14873-10466	7.5	38-52	11154-8151
	15	38-54	22309-15699	15	58-80	14616-10597	10	54-80	10466-7065
	20	54-78	20932-14491	20	78-110	11491-10276	15	85-110	9973-7707
	25	70-95	20184-14873	25	100-125	14129-11303	20	110-125	10276-9043
	30	85-115	19947-14743	—	—	—	—	—	—
<u>SMR5-25</u>	40	110-125	20551-18085	—	—	—	—	—	—
	2	4-5	28258-22606	1.5	4-5	21194-16955	1	4-5	14129-11303
	3	6-8	28258-21194	2	5-6	22606-18839	1.5	6-7	14129-12111
	5	10-14	28258-20184	3	8-14	21194-12111	2	8-12	14129-9419
	7.5	16-24	26492-17661	5	16-24	17661-11774	3	14-22	12111-7707
	10	24-34	23548-16622	7.5	24-34	17661-12467	5	24-34	11774-8311
	15	38-54	22309-15699	10	38-54	14873-10466	7.5	38-52	11154-8151
	20	54-78	20932-14491	15	58-80	14616-10597	10	54-78	10466-7246
<u>SMR5-25</u>	25	70-80	20184-17661	20	78-80	14491-14129	—	—	—

IronHorse[®] Shaft Mount Gearboxes

Dimensions



Dimensions						
Part Number	A		B		C	
	in	mm	in	mm	in	mm
<u>SMR2-09</u>	8.35	212.0	11.50	292.0	5.87	149.0
<u>SMR2-15</u>						
<u>SMR2-25</u>						
<u>SMR3-09</u>	9.25	235.0	12.99	330.0	7.58	192.5
<u>SMR3-15</u>						
<u>SMR3-25</u>						
<u>SMR4-09</u>	10.91	277.0	15.24	387.0	8.23	209.0
<u>SMR4-15</u>						
<u>SMR4-25</u>						
<u>SMR5-09</u>	13.15	334.0	18.23	463.0	8.78	223.0
<u>SMR5-15</u>						
<u>SMR5-25</u>						

See our website: www.AutomationDirect.com for complete engineering drawings

IronHorse® Shaft Mount Gearboxes

Cross Reference

9:1 Ratio				
<i>IronHorse®</i>	<i>Dodge</i>	<i>Hub City</i>	<i>Browning</i>	<i>Cleveland Gear</i>
<u>SMR2-09</u>	TXT2-9:1	PT2115S09	115SMTP09	–
<u>SMR3-09</u>	TXT3-9:1	PT3203S09	203SMTP09	–
<u>SMR4-09</u>	TXT4-9:1	PT4207S09	207SMTP09	–
<u>SMR5-09</u>	TXT5-9:1	PT5215S09	215SMTP09	–

15:1 Ratio				
<i>IronHorse®</i>	<i>Dodge</i>	<i>Hub City</i>	<i>Browning</i>	<i>Cleveland Gear</i>
<u>SMR2-15</u>	TXT2-15:1	PT2115S15	115SMTP15	CGUSM2 15
<u>SMR3-15</u>	TXT3-15:1	PT3203S15	203SMTP15	CGUSM3 15
<u>SMR4-15</u>	TXT4-15:1	PT4207S15	207SMTP15	CGUSM4 15
<u>SMR5-15</u>	TXT5-15:1	PT5215S15	215SMTP15	CGUSM5 15

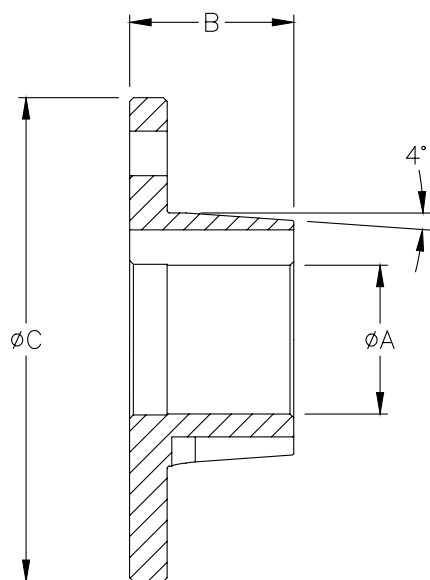
25:1 Ratio				
<i>IronHorse®</i>	<i>Dodge</i>	<i>Hub City</i>	<i>Browning</i>	<i>Cleveland Gear</i>
<u>SMR2-25</u>	TXT2-25:1	PT2115S25	115SMTP25	CGUSM2 25
<u>SMR3-25</u>	TXT3-25:1	PT3203S25	203SMTP25	CGUSM3 25
<u>SMR4-25</u>	TXT4-25:1	PT4207S25	207SMTP25	CGUSM4 25
<u>SMR5-25</u>	TXT5-25:1	PT5215S25	215SMTP25	CGUSM5 25

IronHorse® Shaft Mount Gearboxes

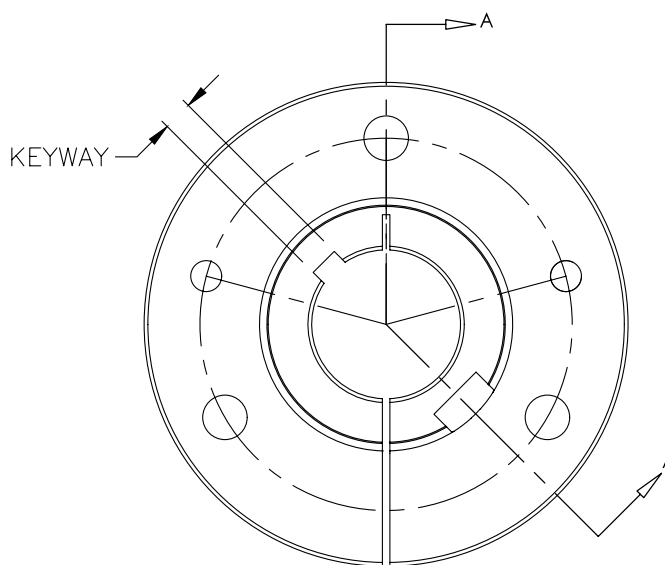
IronHorse® Shaft Mount Gearboxes Accessories					
Part Number	Price	Description	Fits Frame Size	Includes	Typical Photo
SMR2-TBK-23		1-7/16" tapered bushing kit	2	Fastening bolts and a full length shaft key	
SMR2-TBK-24		1-1/2" tapered bushing kit			
SMR2-TBK-31		1-15/16" tapered bushing kit			
SMR3-TBK-27		1-11/16" tapered bushing kit	3		
SMR3-TBK-31		1-15/16" tapered bushing kit			
SMR3-TBK-32		2" tapered bushing kit			
SMR3-TBK-35		2-3/16" tapered bushing kit	4		
SMR4-TBK-31		1-15/16" tapered bushing kit			
SMR4-TBK-32		2" tapered bushing kit			
SMR4-TBK-35		2-3/16" tapered bushing kit	5		
SMR4-TBK-39		2-7/16" tapered bushing kit			
SMR5-TBK-35		2-3/16" tapered bushing kit			
SMR5-TBK-39		2-7/16" tapered bushing kit	5		
SMR5-TBK-40		2-1/2" tapered bushing kit			
SMR5-TBK-47		2-15/16" tapered bushing kit			
SMR2-CF		Screw conveyor flange	2	Mounting Hardware	
SMR3-CF		Screw conveyor flange	3		
SMR4-CF		Screw conveyor flange	4		
SMR5-CF		Screw conveyor flange	5		
SMR2-CDS-24		1-1/2" screw conveyor drive shaft	2	Mounting Hardware	
SMR2-CDS-32		2" screw conveyor drive shaft			
SMR2-CDS-39		2-7/16" screw conveyor drive shaft			
SMR2-CDS-48		3" screw conveyor drive shaft	3		
SMR3-CDS-24		1-1/2" screw conveyor drive shaft			
SMR3-CDS-32		2" screw conveyor drive shaft			
SMR3-CDS-39		2-7/16" screw conveyor drive shaft	4		
SMR3-CDS-48		3" screw conveyor drive shaft			
SMR4-CDS-24		1-1/2" screw conveyor drive shaft			
SMR4-CDS-39		2-7/16" screw conveyor drive shaft	5		
SMR4-CDS-48		3" screw conveyor drive shaft			
SMR5-CDS-32		2" screw conveyor drive shaft			
SMR5-CDS-39		2-7/16" screw conveyor drive shaft	5		
SMR5-CDS-48		3" screw conveyor drive shaft			
SMR5-CDS-55		3-7/16" screw conveyor drive shaft			
SMR2-BG		Belt guard	2	-	
SMR3-BG		Belt guard	3		
SMR4-BG		Belt guard	4		
SMR5-BG		Belt guard	5		
SMR2-MM		Motor mount	2	Mounting Hardware	
SMR3-MM		Motor mount	3		
SMR4-MM		Motor mount	4		
SMR5-MM		Motor mount	5		
SMR2-TARM		Torque arm	2	Mounting Hardware	
SMR3-TARM		Torque arm	3		
SMR4-TARM		Torque arm	4		
SMR2-BSK		Backstop assembly	2	-	
SMR3-BSK		Backstop assembly	3		
SMR4-BSK		Backstop assembly	4		
SMR5-BSK		Backstop assembly	5		

IronHorse[®] Shaft Mount Gearboxes

Accessories Dimensions



SECTION A-A

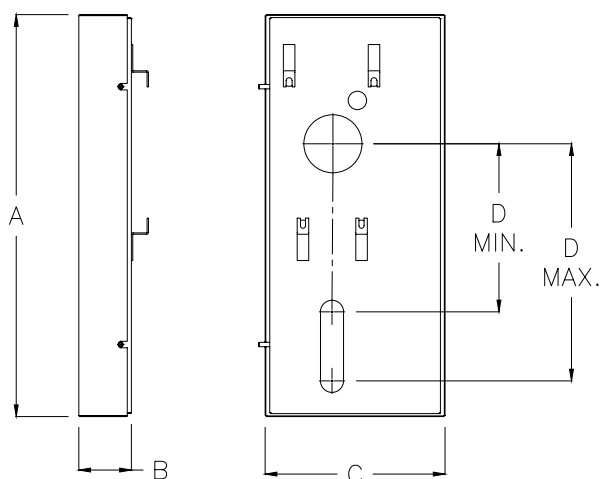
**Bushings**

Bushings Dimensions						
Part Number	A (Bore)		B (Oal)		C (Flange)	
	in	mm	in	mm	in	mm
<u>SMR2-TBK-23</u>	1.4375	36.51	1.38	35.0	4.06	103.2
<u>SMR2-TBK-24</u>	1.5	38.10	1.38	35.0	4.06	103.2
<u>SMR2-TBK-31</u>	1.9375	49.21	1.38	35.0	4.06	103.2
<u>SMR3-TBK-27</u>	1.6875	42.86	1.63	41.5	4.37	111.1
<u>SMR3-TBK-31</u>	1.9375	49.21	1.63	41.5	4.37	111.1
<u>SMR3-TBK-32</u>	2.0	50.80	1.63	41.5	4.37	111.1
<u>SMR3-TBK-35</u>	2.1875	55.56	1.63	41.5	4.37	111.1
<u>SMR4-TBK-31</u>	1.9375	49.21	2.13	54.0	4.81	122.2
<u>SMR4-TBK-32</u>	2.0	50.80	2.13	54.0	4.81	122.2
<u>SMR4-TBK-35</u>	2.1875	55.56	2.13	54.0	4.81	122.2
<u>SMR4-TBK-39</u>	2.4375	61.91	2.13	54.0	4.81	122.2
<u>SMR5-TBK-35</u>	2.1875	55.56	2.07	52.5	5.63	142.9
<u>SMR5-TBK-39</u>	2.4375	61.91	2.07	52.5	5.63	142.9
<u>SMR5-TBK-40</u>	2.5	63.50	2.07	52.5	5.63	142.9
<u>SMR5-TBK-47</u>	2.9375	74.61	2.07	52.5	5.63	142.9

See our website: www.AutomationDirect.com for complete engineering drawings

IronHorse[®] Shaft Mount Gearboxes

Accessories Dimensions



Belt Guards

Belt Guards Dimensions										
Part Number	A		B		C		D min.		D max.	
	in	mm	in	mm	in	mm	in	mm	in	mm
<u>SMR2-BG</u>	34.37	873.0	4.48	113.9	15.35	390.0	14.37	365.0	20.28	515
<u>SMR3-BG</u>	37.32	948.0	4.53	115.0	17.91	455.0	14.67	372.5	20.69	525.5
<u>SMR4-BG</u>	43.61	1107.8	4.71	119.7	18.43	468.0	16.22	412.0	24.21	615
<u>SMR5-BG</u>	45.67	1160.0	5.32	135.1	18.39	467.0	16.73	425.0	25.87	657

See our website: www.AutomationDirect.com for complete engineering drawings