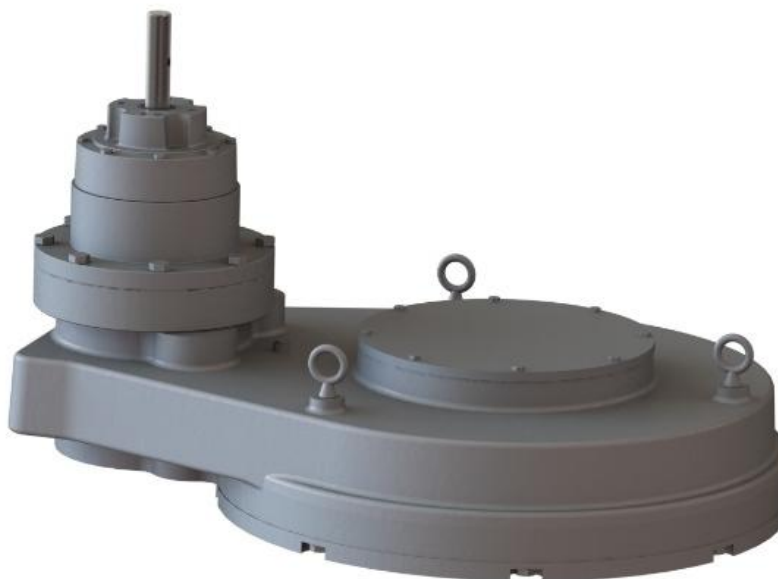


WedgeRock RSP PRODUCT SHEET

700191 Rev-02

HIGH PERFORMANCE SPUR GEARBOX



Features, Options & Configurability

- | | |
|---|---|
| <ul style="list-style-type: none"> • Optionally Self-Locking • 90% filled, Greased for life, no maintenance • Elastomer seals at all ingress points, designed to IP68 • Input shaft projection Parallel or Perpendicular to output • Input lockout • Available Certifications: <ul style="list-style-type: none"> ○ BABA and other USA domestic ○ AWWA Compliant ○ ATEX Compliant | <ul style="list-style-type: none"> • Modular design accommodates; <ul style="list-style-type: none"> ○ Multi-Turn ○ Rising Stem ○ Subsea <ul style="list-style-type: none"> ▪ Deep water ▪ Shallow water • Motorized and Manual input options • Buried service prep • Risers and Adaptors • Temperature range and materials configured per application • Machined for direct mount <ul style="list-style-type: none"> ○ Standard Flanges to MSS SP101/MSS SP102 & ISO 5211/ISO 5210 ○ Custom Bolt Pattern Available |
|---|---|

PURPOSE ENGINEERED - QUALITY MANUFACTURED - PERFORMANCE TESTED

The information in this document is subject to change without notice. Updated documents can be requested or obtained from our website.

WedgeRock RSP SERIES

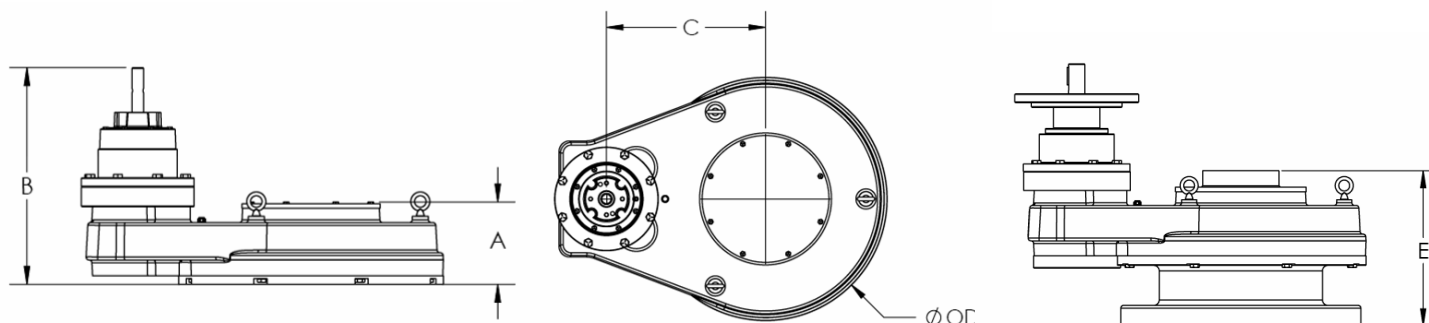


RSP DATA

MODEL	MULTI-TURN TORQUE RATING		OPTIONAL THRUST RATING	MAX BORE W/ SQUARE KEY PER ANSI B17.1	MAX THREAD DIAMETER	MAX STEM ENGAGEMENT	STANDARD FLANGE
	MANUAL 1,000 CYCLES	MOTORIZED 10,000 CYCLES					
	IN-LBS (NM)	IN-LBS (NM)					
RSP3	4,800 (542)	3,840 (434)	40,000 (177,929)	2.00 (51)	1.25 (32)	2.73 (69)	F-FA10 F-FA12
RSP6	8,400 (949)	6,720 (759)	40,000 (177,929)	2.50 (64)	1.75 (44)	3.75 (95)	F-FA10 F-FA16
RSP9	15,000 (1,695)	12,000 (1,356)	60,000 (266,893)	3.00 (76)	2.25 (57)	4.20 (107)	F-FA14 F-FA16
RSP12	45,000 (5,085)	36,000 (4,068)	100,000 (444,822)	4.00 (102)	3.00 (76)	5.00 (127)	F-FA16 F-FA25
RSP16	96,000 (10,847)	76,800 (8,678)	250,000 (1,112,055)	5.00 (127)	4.00 (102)	6.00 (152)	F-FA25 F-FA30
RSP20	225,000 (25,424)	180,000 (20,339)	550,000 (2,446,521)	6.00 (152)	5.00 (127)	6.80 (173)	F-FA25 F-FA48
RSP30	500,000 (56,497)	400,000 (45,198)	1,000,000 (4,448,220)	10.00 (254)	8.00 (203)	8.00 (203)	F-FA35 F-FA60

WedgeRock RSP SERIES

ENVELOPE DIMENSIONS



RSP ENVELOPE DIMENSIONS AND WEIGHT						+ THRUST BASE	
MODEL	A	B	C	OD	WEIGHT	E	WEIGHT
	IN (MM)	IN (MM)	IN (MM)	IN (MM)	LBS (KG)	IN (MM)	LBS (KG)
RSP3	3.5 (89)	6.8 (173)	3.0 (76)	5.9 (150)	38 (17)	5.0 (128)	60 (27)
RSP6	4.0 (101)	7.3 (186)	5.0 (127)	8.3 (210)	44 (20)	5.5 (140)	69 (31)
RSP9	4.8 (121)	8.6 (218)	6.5 (165)	11.0 (279)	85 (39)	6.3 (160)	133 (60)
RSP12	5.8 (146)	8.3 (211)	9.0 (229)	14.0 (356)	205 (93)	7.3 (185)	321 (146)
RSP12 + RP	5.8 (146)	11.5 (293)	9.0 (229)	14.0 (356)	215 (98)	7.3 (185)	331 (150)
RSP16	6.5 (165)	9.1 (230)	12.0 (305)	18.0 (457)	422 (191)	10.0 (255)	661 (300)
RSP16 + RP	6.5 (165)	12.3 (312)	12.0 (305)	18.0 (457)	447 (203)	10.0 (255)	686 (311)
RSP20	7.2 (182)	12.3 (312)	15.1 (382)	23.0 (583)	574 (260)	12.7 (323)	899 (408)
RSP20 + RP	7.2 (182)	18.8 (479)	15.1 (382)	23.0 (583)	618 (280)	12.7 (323)	943 (428)
RSP30	8.8 (222)	13.9 (352)	18.0 (457)	33.0 (838)	875 (397)	16.3 (414)	1370 (622)
RSP30 + RP	8.8 (222)	20.4 (519)	18.0 (457)	33.0 (838)	926 (420)	16.3 (414)	1421 (645)

Dimensions represent most common configurations. Other dimensional configurations possible.

Weight may vary with final configuration.

MANUAL

MODEL	Torque Rating In-Lbs/(Nm)	Gear Ratio					Mechanical Advantage +/- 10%					Input Torque Ft-lbs									
RSP3	4,800 <i>(542)</i>	-1.0	2.0	3.0				0.9	1.8	2.7				5333	2667	1778					
RSP6	8,400 <i>(949)</i>	2.0	3.0	4.0				6.0	1.8	2.7				3.6	5.4	4667				3111	2333
RSP9	15,000 <i>(1695)</i>	2.0	3.0	4.0	6.0	8.0	1.8	2.7	3.6	5.4	7.2	8333	5556	4167	2778	2083					
RSP12	45,000 <i>(5085)</i>	4.0	6.0	8.0				3.6	5.4	7.2				12500	8333	6250					
RSP12 + RP	45,000 <i>(5085)</i>	10	12	17				20	25	36				9.1	10	15				17	22
RSP16	96,000 <i>(10847)</i>	4.0	6.0	8.0				3.6	5.4	7.2				26667	17778	13333					
RSP16+RP	96,000 <i>(10847)</i>	21	24	34				40	51	72				18	21	29				35	44
RSP20	225,000 <i>(25424)</i>	5.0	6.0	7.0	8.0				4.5	5.4	6.3	7.2				50000	41667	35714	31250		
RSP20 + RP	225,000 <i>(25424)</i>	18	21	29	35				44	63	16	18				26	31	39	55		
RSP20 + RP + RP	225,000 <i>(25424)</i>	91	105	147	175	222	315	77	89	124	148	188	267	2920	2531	1808	1518	1199	844		
RSP30	500,000 <i>(56497)</i>	5.0	6.0	8.0				4.5	5.4	7.2				111111	92593	69444					
RSP30 + RP	500,000 <i>(56497)</i>	21	24	34				40	51	72				18	21	29				35	44
RSP30 + RP + RP	500,000 <i>(56497)</i>	104	120	168	200	253	360	88	102	142	169	214	305	5677	4920	3515	2952	2332	1640		

MOTORIZED

MODEL	Torque Rating In-Lbs/(Nm)	Gear Ratio					Mechanical Advantage +/- 10%					Input Torque Ft-lbs																
RSP3	3,840 (434)	-1.0	2.0	3.0				0.9	1.8	2.7				4267	2133	1422												
RSP6	6,720 (759)	2.0	3.0	4.0				6.0	1.8	2.7				3.6	5.4	3733				2489	1867	1244						
RSP9	12,000 (1356)	2.0	3.0	4.0				6.0	8.0	1.8				2.7	3.6	5.4				7.2	6667	4444	3333	2222	1667			
RSP12	36,000 (4068)	4.0	6.0	8.0				3.6	5.4	7.2				10000	6667	5000												
RSP12 + RP	36,000 (4068)	10	12	17				20	25	36				9.1	10	15				17	22	31	3965	3436	2455	2062	1629	1145
RSP16	76,800 (8678)	4.0	6.0	8.0										3.6	5.4	7.2							21333	14222	10667			
RSP16+RP	76,800 (8678)	10	12	17	20	25	36				9.1	10	15	17	22	31	8459	7331	5236				4399	3474	2444			
RSP20	180,000 (20339)	5.0	6.0	7.0	8.0						4.5	5.4	6.3	7.2				40000	33333				28571	25000				
RSP20 + RP	180,000 (20339)	18	21	29	35				44	63	16	18	26	31				39	55	11329	9818	7013	5891	4653			3273	
RSP30	400,000 (45198)	5.0	6.0	8.0					4.5	5.4	7.2							88889	74074	55556								
RSP30 + RP	400,000 (45198)	21	24	34				40	51	72	18				21	29	35	44	63	22028				19091	13637	11455	9048	6364

Notes:

- Actual mechanical advantage may be up to 10% lower than the published value until the gearbox has properly worn in. Full wear-in typically occurs within the first 10 operating cycles.
- More ratios available if required.

WedgeRock RSP SERIES

SERVICE CONDITIONS

STANDARD COMPONENT MATERIAL SELECTION FOR SPECIFIED ENVIRONMENTS			
COMPONENT	SERVICE CONDITION		
	STANDARD PIPELINE		OFFSHORE
	TOPSIDE	BURIED	PLATFORM
HOUSING/BASEPLATE	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
OUTPUT GEAR	DUCTILE IRON	DUCTILE IRON	DUCTILE IRON
INPUT AND IDLER GEARS	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL
INPUT SHAFT	QPQ COATED STEEL OR STAINLESS	QPQ COATED STEEL OR STAINLESS	QPQ COATED STEEL OR STAINLESS
STEM COVER (RISING STEM)	STEEL	STEEL	STEEL
DRIVE NUT (RISING STEM)	BRONZE	BRONZE	BRONZE
OUTPUT DRIVER (NON RISING STEM)	STEEL	STEEL	STEEL
FASTENERS ¹	STEEL	STEEL	316SS
SEALS ²	BUNA	BUNA	BUNA
LUBRICATION ³	GREASE	GREASE	GREASE
FINISH ⁴	EPOXY PRIMER	EPOXY PRIMER	EPOXY PRIMER
1) Standard fasteners for application. Option to use Grade 5, 316SS, B7(M), L7(M), Monel, or other materials per project specification. Grade 5 is zinc plated.			
2) Standard seals for application unless otherwise specified. Refer to temperature service			
3) Lubrication per temperature condition. Refer to temperature service condition table.			
4) Standard finish unless otherwise specified. Standard epoxy 7-10 mils dft.			

WedgeRock RSP SERIES

TEMPERATURE AND SERVICE CONDITIONS

Explosion Protection

Available explosion protection configuration conforms to ATEX requirements for T3 or T4. The following is the standard ATEX rating:

II 2 G Ex h IIB T4 Gb
 II 2 D Ex h IIIC T135°C Db

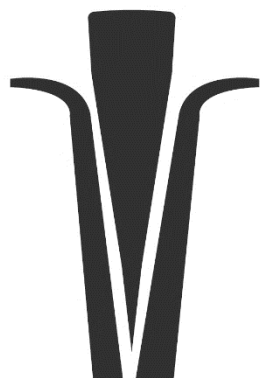
Enclosure Protection

The standard RSP has been verified to meet IP68 requirements, ensuring sealing integrity when submerged in water at depths greater than 1 m. The unit is suitable for uncompensated subsea operation to 100 m and for compensated applications to depths exceeding 6,000 m.

Ambient Temperature Rating

TEMPERATURE SERVICE CONDITIONS		
SERVICE CONDITION	MIN OPERATING TEMP	MAX OPERATING TEMP
	°F (°C)	°F (°C)
STANDARD SERVICE	-40 (-40)	225 (107)
HIGH TEMPERATURE SERVICE	-15 (-26)	400 (204)
LOW TEMPERATURE SERVICE	-60 (-51)	225 (107)
ATEX T4 STANDARD	-31 (-35)	160 (70)
ATEX T4 EXTENDED	-60 (-51)	160 (70)
Wider operating temperature ranges are available. Consult with factory.		

ABOUT WEDGEROCK



The WedgeRock name and logo symbolize the elegance of a simple and effective design and the grit, focus, and determination required to make things happen – the work required to get big things moving. Pragmatism and hard work are central to our culture and reflected in everything we do.

Don't let our dirty hands and old school approach fool you. WedgeRock brings industry leading innovation to your engineered projects in standard lead times.

With a focused approach, WedgeRock provides solutions for the most demanding torque and thrust application. Whether you need to operate valves thousands of meters below the ocean surface, or a purpose designed gear operator for your valve line, give us a call or send an email to get the partnership started.

OUR MISSION

WedgeRock provides performance engineered actuation solutions for demanding applications.

