

#### Features

- Radial Spherical Piston Motor Design
- High starting torque
- Excellent smooth operation at very low speeds
- Available with standard shaft, wheel mounting, two speed and braking options.
- High mechanical and volumetric efficiency
- High radial force to directly drive vehicle wheels.



#### Ordering Details

M	Motor									
F	Fixed Displacement									
RSP	Radial Spherical Piston									
160-	CC, Centimeters <sup>3</sup> /rev.:									
	<b>Code, cc/rev.</b>	<b>Frame Size</b>	<b>Ref. Page</b>							
	160, 230, 250, 280, 320, 360, 400	1	3							
	470, 520, 560, 620, 680, 750, 820	2	4							
	860, 930, 1050, 1150, 1250	3	5							
	1400, 1550, 1700	4	6							
	1900, 2100, 2300, 2500, 2800	5	7							
	3150, 3500, 3800, 4200	6	8							
	5000, 5500, 6000	7	9							
6700, 8300, 10000,	8	10								
12500, 15000	9	11								
W	Mounting Flange:									
A -	Wheel Hub Type (omit for Shaft type):									
	<b>Reference Page for Dimensions</b>									
	<b>Code</b>	<b>Frame Size</b>								
	A	1	2	3	4	5	6	7	8	9
B	3	4	5	6	7	8	9	10	11	
C										
2R-	Options:									
	<b>Code</b>	<b>Description</b>	<b>Symbol</b>							
B	With brake									
2R	2 Speed operation, in clockwise direction/right hand (consult factory for ordering)									
1	Series: 1									

Code	Description	Illustration
S	Spline, DIN 5480	
W	Wheel Mount	

Example Part Number: MFRP160-WA-2R-1

**Technical Specifications:**

Frame	Nominal Disp., cc/rev.	Actual disp., cc/rev		Pressure, bar		Torque		Speed range, rpm	Max. Cont. Power, kw	Shaft motor				Wheel Motor			
		One Speed	Dbl. Speed option	Peak	Cont.	Rated, N-m	N-m/bar			Weight, kg		case oil fill volume, L		Weight, kg		case oil fill Volume, L	
										No brake	With brake	No brake	With brake	No brake	With brake	No brake	With brake
1	160	160	80	400	250	605	2.4	0-250	16	21	31	0.8	0.7	21	31	0.8	0.7
	230	225	113	400		850	3.4										
	250	255	127	400		964	3.8										
	280	280	140	400		1058	4.2										
	320	325	162	350		1229	4.9										
	360	365	182	350		1380	5.5										
	400	400	200	350		1512	6.0										
2	470	468	234	400	250	1769	7.0	0-200	25	41	47	1.0	1.0	41	52	.5	.5
	520	514	257			1943	7.7										
	560	560	280			2117	8.4										
	620	625	312.5	350		2363	9.4	0-190									
	680	688	344			2601	10.4	0-180									
	750	750	375			2836	11.3	0-160									
	820	820	410			3101	12.4	0-140									
3	860	857	429	400	250	3241	12.9	0-170	36	62	80	1.5	1.0	65	84	1.5	1.0
	930	934	467			3532	14.1										
	1050	1043	522	350		3944	15.7	0-100									
	1150	1146	573			4333	17.3										
	1250	1248	624			4719	18.8										
4	1400	1404	702	350	250	5309	21.2	0-80	44	88	114	2	1.5	86	112	2.0	1.5
	1550	1536	768	350	250	5808	23.2										
	1700	1687	844	350	250	6379	25.5										
5	1900	1911	956	400	250	7227	28.9	0-135	62	112	142	3.0	2.5	120	150	3.0	2.5
	2100	2099	1050			7938	31.7										
	2300	2340	1170	350		8849	35.3	0-100									
	2500	2560	1280			9681	38.7	0-80									
	2800	2812	1406			10634	42.5										
6	3150	3143	1572	350	250	11886	47.5	0-100	97	188	248	5.0	4.0	209	269	5.0	4.0
	3500	3494	1747			13213	52.8	0-90									
	3800	3843	1922			14533	58.1	0-80									
	4200	4198	2099			15876	63.5										
7	5000	4997	2499	350	250	18897	75.5	0-80	110	310	415	6.0	4.5	310	415	6.0	4.5
	5500	5504	2752			20815	83.2	0-70									
	6000	6011	3006			22732	90.9										
8	6700	6679	3340	350	250	25258	101.0	0-65	123	450	527	9.0	7.5	445	522	9.0	7.5
	8300	8328	4164			31495	125.9	0-50									
	10000	10019	5010			37890	151.5	0-40									
9	12500	12500	6250	300	250	47273	189.0	0-40	150	470	573	11.0	9.0	460	563	11.0	9.0
	15000	15000	7500			56727	226.9	0-30									

**Brake Option "B":**

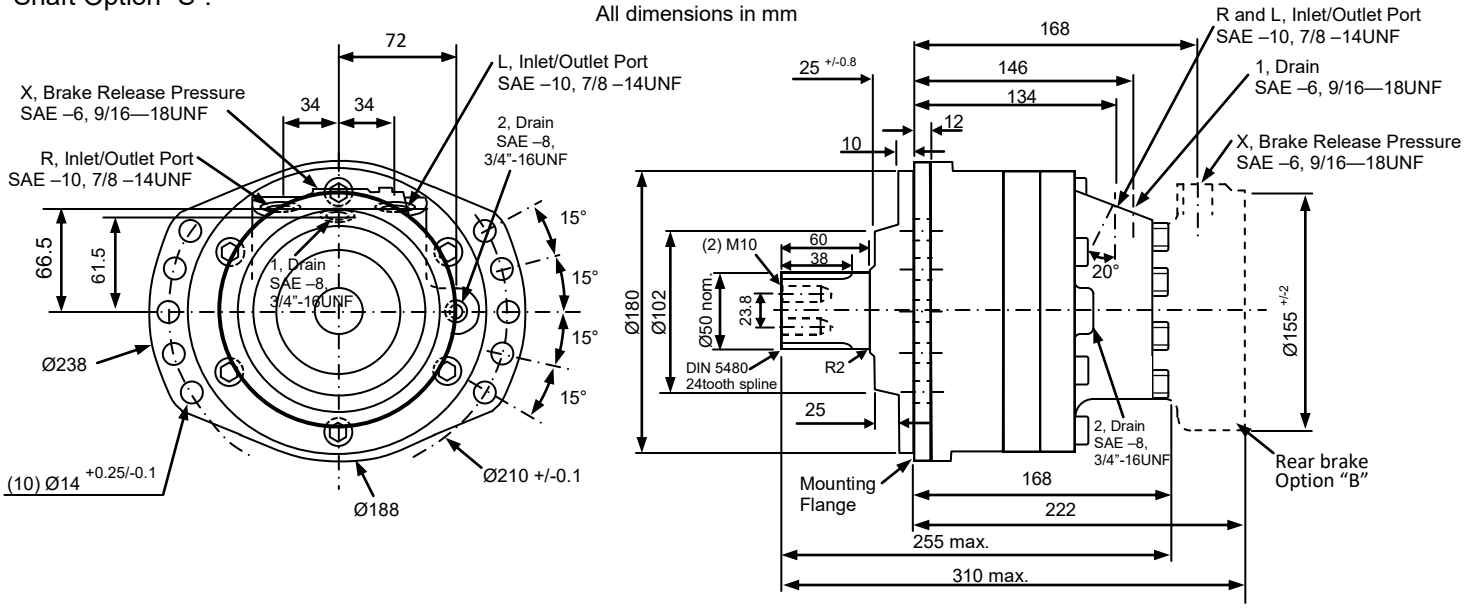
Frame	Braking Torque <sup>1</sup>	Dynamic Braking Torque <sup>1,2</sup>	Parking Brake <sup>1</sup>	Min. brake release pressure	Max. brake release pressure	Oil capacity	Volume for brake release	Max. energy dissipation
	N-m	N-m	N-m	bar	bar	cm <sup>3</sup>	cm <sup>3</sup>	joules
1	2500	1625	1875	12	30	100	16	38179
2	3060	1990	2995	12	30	70	32	50
3	9000	5850	6750	12	30	100	40	110336
4	11840	7695	8880	12	30	170	40	123699
5	18600	12800	13940	12	30	180	70	193033
6	20500	13325	15375	12	30	70	70	123699
7	30000	19500	22500	12	30	450	13542	Consult Factory
8	42000	27300	31500	14	30	450	135	Consult Factory
9	42000	27300	31500	14	30	450	135	Consult Factory

<sup>1</sup> with no pressure in housing

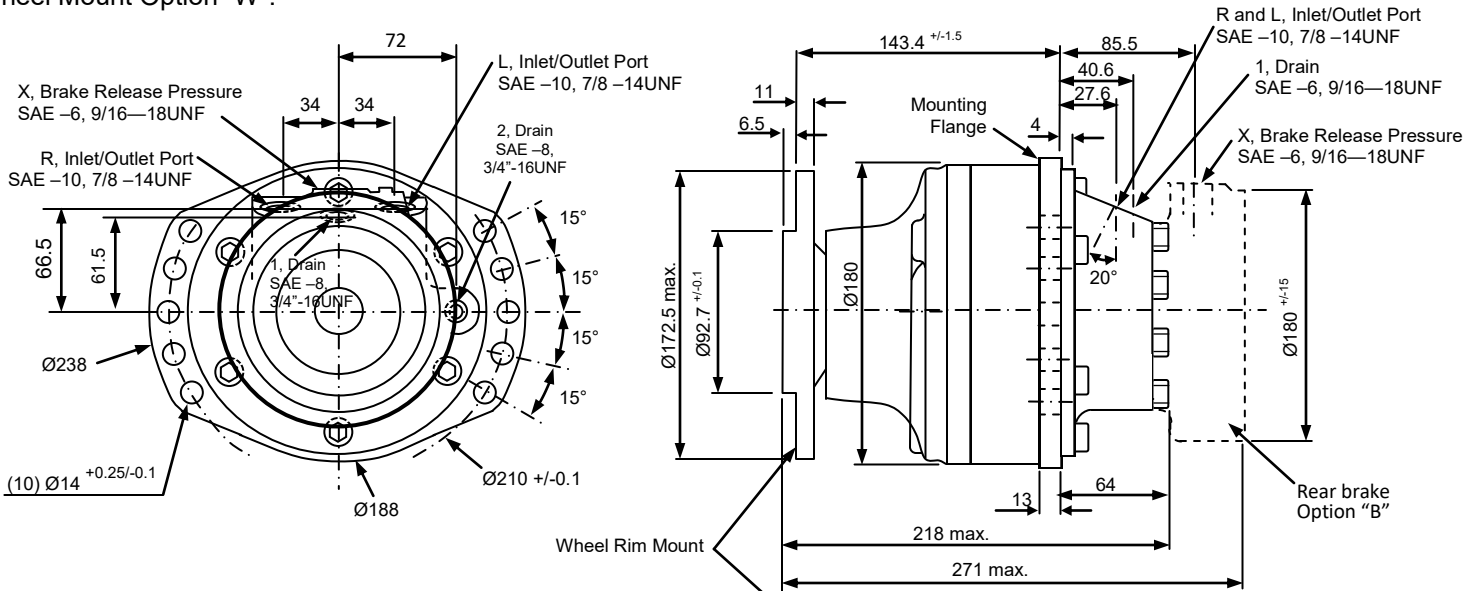
<sup>2</sup> max. 10 emergency brake uses

# Dimensions Frame 1:

## Shaft Option "S":

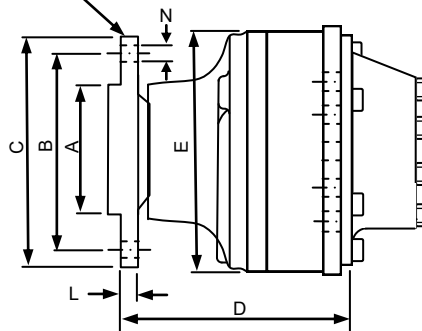


## Wheel Mount Option "W":

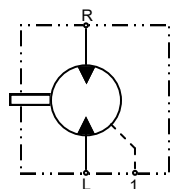


### Wheel Rim Options

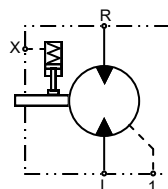
Option	A	B	C	D	E	N	Wheel rim mounting bolts	L
A	Ø92.7	Ø140	Ø169	143.4	Ø179.5	Ø18	(5) M14x1.5	11
B	Ø77.6	Ø130	Ø169	140.6	Ø179.5	Ø18	(5) M14x1.5	11



without brake

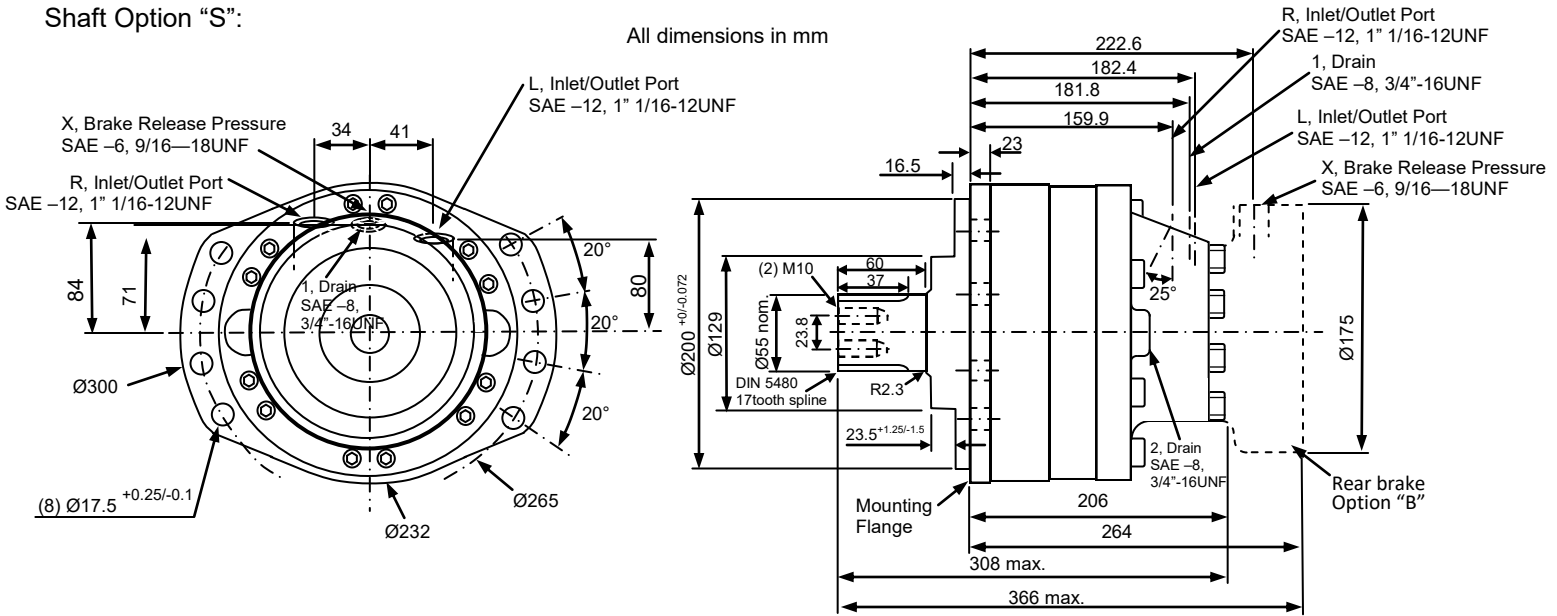


with brake "B"

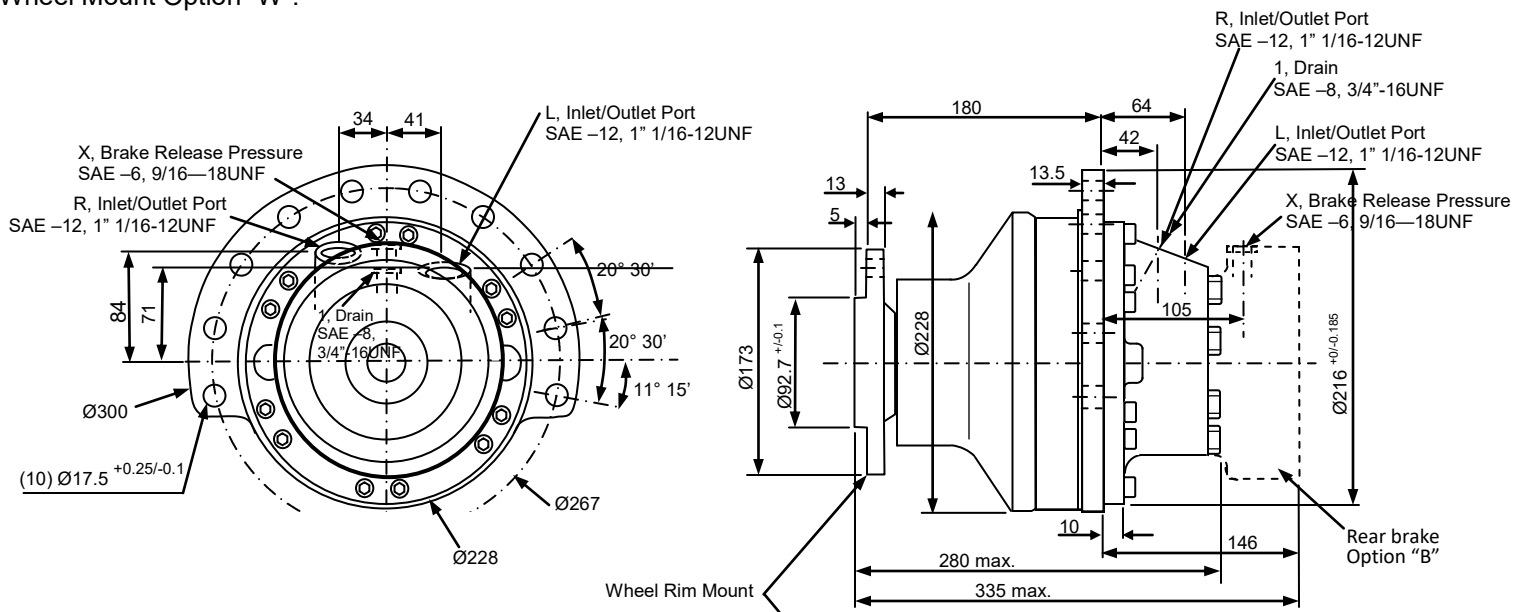


## Dimensions Frame 2:

### Shaft Option "S":

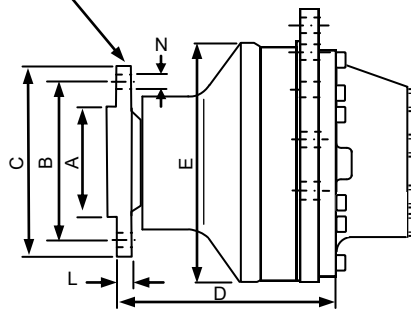


### Wheel Mount Option "W":

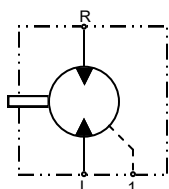


#### Wheel Rim Options

Option	A	B	C	D	E	N	Wheel rim mounting bolts	L
A	Ø92.7	Ø140	Ø170	178.6	Ø228	Ø18	(10) M14x1.5	11
B	Ø160.7	Ø205	Ø245	178.5	Ø228	Ø20	(6) M18x1.5	14
C	Ø95.7	Ø140	Ø180	145.4	Ø228	Ø18	(5) M14x1.5	10.5



without brake



with brake "B"

