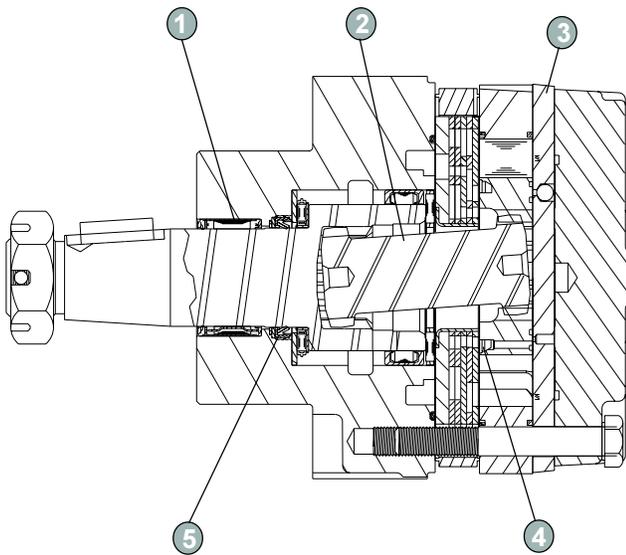


•Features



- ① **Needle Roller Bearing** is in optimum location to allow load to be placed as close to center line of bearing as possible.
- ② **Heavy-Duty Drive Link** receives full flow lubrication and is capable of withstanding extreme abuse from applications with the possibility of overrunning loads.
- ③ **Pressure-Compensated Balance Plate** improves volumetric efficiency at low flows and high pressure.
- ④ **Valve-In-Rotor Design** provides cost effective, efficient distribution of oil and reduces overall motor length.
- ⑤ **High Pressure Viton® Shaft Seal** offers superior seal life and performance and eliminates need for case drain.

Shortest And Lightest In Its Class

The combination of compact size, light weight and low speed efficiency make the CE motor the best wheel drive motor available. To reduce overall motor length and weight, all unnecessary material was shaved from the housing, and the valve was placed in the face of the rotor. The pressure-compensated balance plate allows the motor to maintain high volumetric efficiencies at startup, and high mechanical efficiencies during running conditions. All of these features unite to make the CE Series motor 10-25% lighter and more compact than competitive designs, making it perfect for applications with strict weight and size requirements.



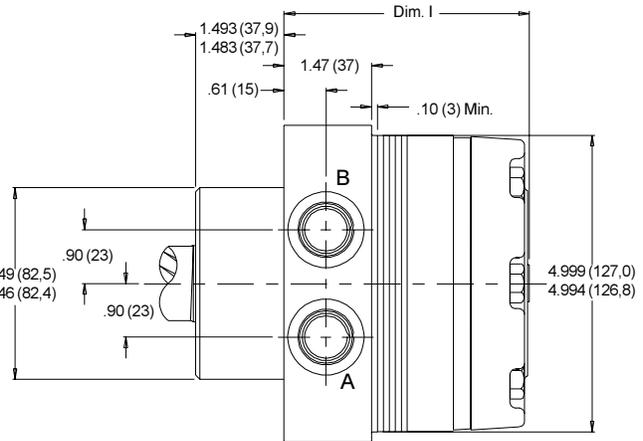
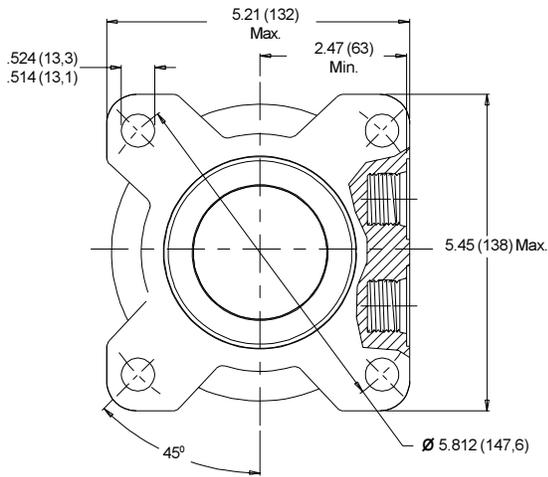
Specifications

Code	Displacement in ³ /rev (cc)	Max Speed RPM		Max Flow GPM (LPM)		Max Torque lb-in (Nm)			Pressure ΔPSI(ΔBar)		
		Cont.	Inter.	Cont.	Inter.	Cont.	Inter.	*Stall	Cont.	Inter.	Peak
120	7.4 (121)	360	490	12 (45)	16 (61)	2850 (322)	3150 (356)	2235 (253)	3000 (207)	3250 (224)	3500 (241)
160	9.9 (162)	370	470	16 (61)	20 (76)	3750 (424)	4430 (501)	3090 (349)	3000 (207)	3250 (224)	3500 (241)
200	12.4 (204)	300	370	16 (61)	20 (76)	4650 (525)	5250 (593)	3845 (434)	3000 (207)	3250 (224)	3500 (241)
230	14.2 (232)	260	320	16 (61)	20 (76)	4950 (559)	5720 (646)	4740 (536)	3000 (207)	3250 (224)	3500 (241)
260	15.9 (261)	260	350	18 (68)	24 (91)	6250 (706)	6730 (760)	4820 (545)	3000 (207)	3250 (224)	3500 (241)
300	18.3 (300)	250	320	20 (76)	25 (95)	7100 (802)	7630 (862)	5870 (663)	3000 (207)	3250 (224)	3500 (241)
350	21.2 (348)	220	270	20 (76)	25 (95)	8000 (904)	9000 (1017)	6880 (777)	3000 (207)	3250 (224)	3500 (241)
375	22.8 (375)	200	250	20 (76)	25 (95)	8600 (972)	9200 (1040)	7630 (862)	3000 (207)	3250 (224)	3500 (241)
470	28.3 (465)	160	200	20 (76)	25 (95)	9200 (1040)	10200 (1153)	7900 (893)	2500 (172)	2750 (189)	3000 (207)
540	32.7 (536)	140	170	20 (76)	25 (95)	8875 (1003)	10700 (1209)	7325 (828)	2000 (138)	2500 (172)	3000 (207)
750	45.6 (748)	100	130	20 (76)	25 (95)	9575 (1082)	10950 (1237)	8610 (973)	1500 (103)	1750 (121)	2000 (138)

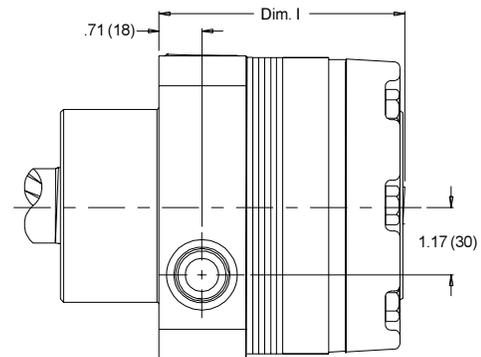
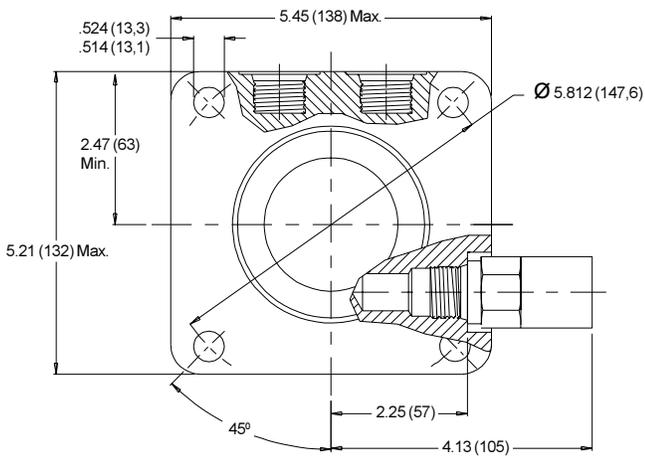
* Stall torque measured at 1 RPM at continuous pressure per SAE J746b.

• **Housings**
Wheel Mount

W31	4-Hole Front Aligned Ports 7/8" O-Ring
W38	4-Hole Front Aligned Ports 1/2" BSP.F

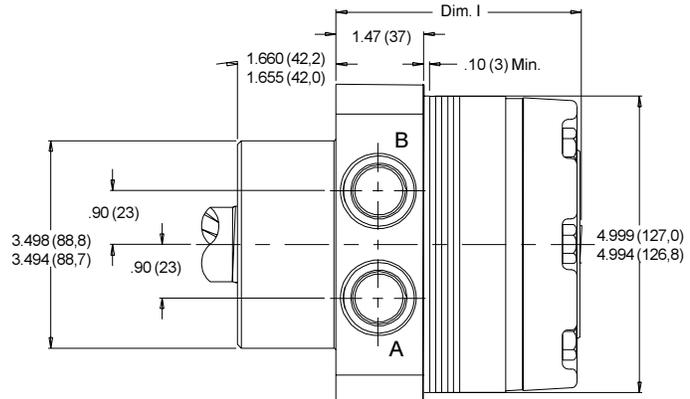
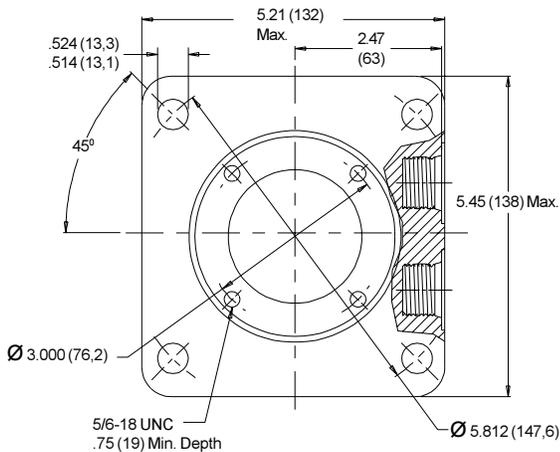


Optional Relief Cartridge shown installed and is available for both the W31 and W38 housings.



Valve Cavity - 10 Series/2-way (7/8-14 UNF-2B)

K31	4-Hole Front Aligned Ports with Brake Mount 7/8" O-Ring
K38	4-Hole Front Aligned Ports with Brake Mount 1/2" BSP.F

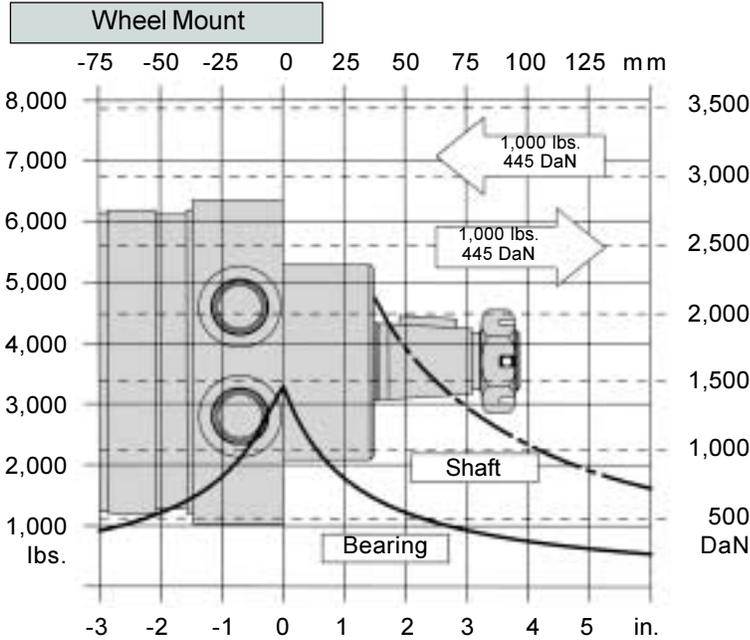


• Technical

Allowable Bearing And Shaft Loads

Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table located below.

Shaft Curve: The shaft curve represents a 3:1 safety factor based on a tensile strength of 330 kpsi.



Length and Weight Tables

Wheel Mount

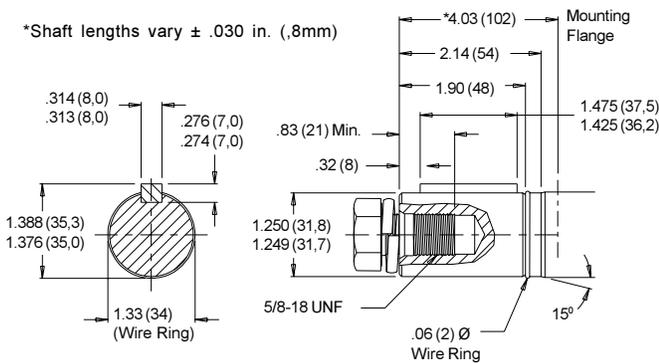
Disp. Code	Dim. I in (mm)	Weight lbs (kg)
120	3.91 (99)	24.1 (10,9)
160	3.91 (99)	24.1 (10,9)
200	4.05 (103)	24.8 (11,3)
230	4.15 (105)	25.2 (11,4)
260	4.24 (108)	25.6 (11,6)
300	4.37 (111)	26.3 (11,9)
350	4.92 (125)	28.8 (13,1)
375	4.62 (117)	27.4 (12,4)
470	4.92 (125)	28.8 (13,1)
540	5.16 (131)	30.0 (13,6)
750	5.87 (149)	33.1 (15,0)

CE motor weights vary ± 1 lb (.45 kg) depending upon motor configuration.

• Shafts

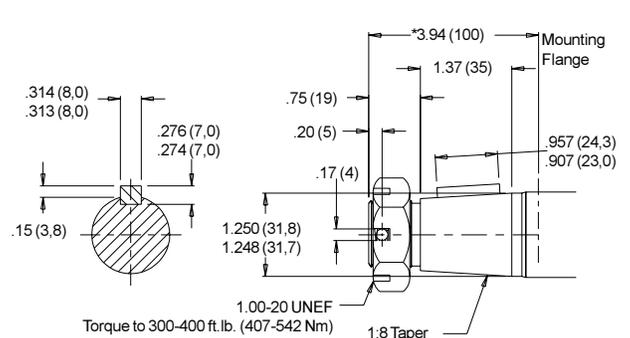
20 1-1/4" Straight

Max. Torque: 10,600 lb-in
1,200 Nm



22 1-1/4 Inch Tapered

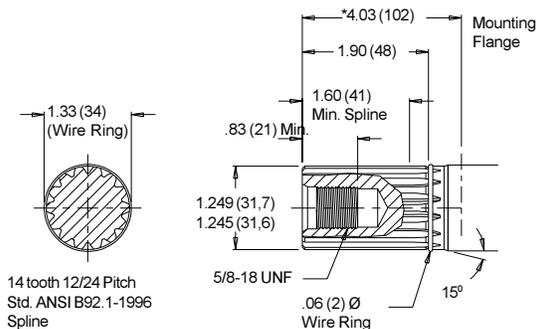
Max. Torque: 10,600 lb-in
1,200 Nm



Note: A slotted nut is standard on this shaft.

23 14 Tooth Spline

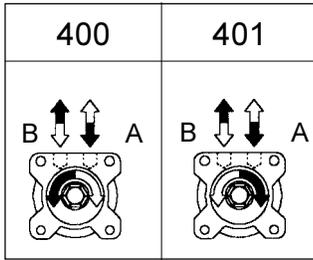
Max. Torque: 10,600 lb-in
1,200 Nm



Bearing Load Multiplication Factor Table

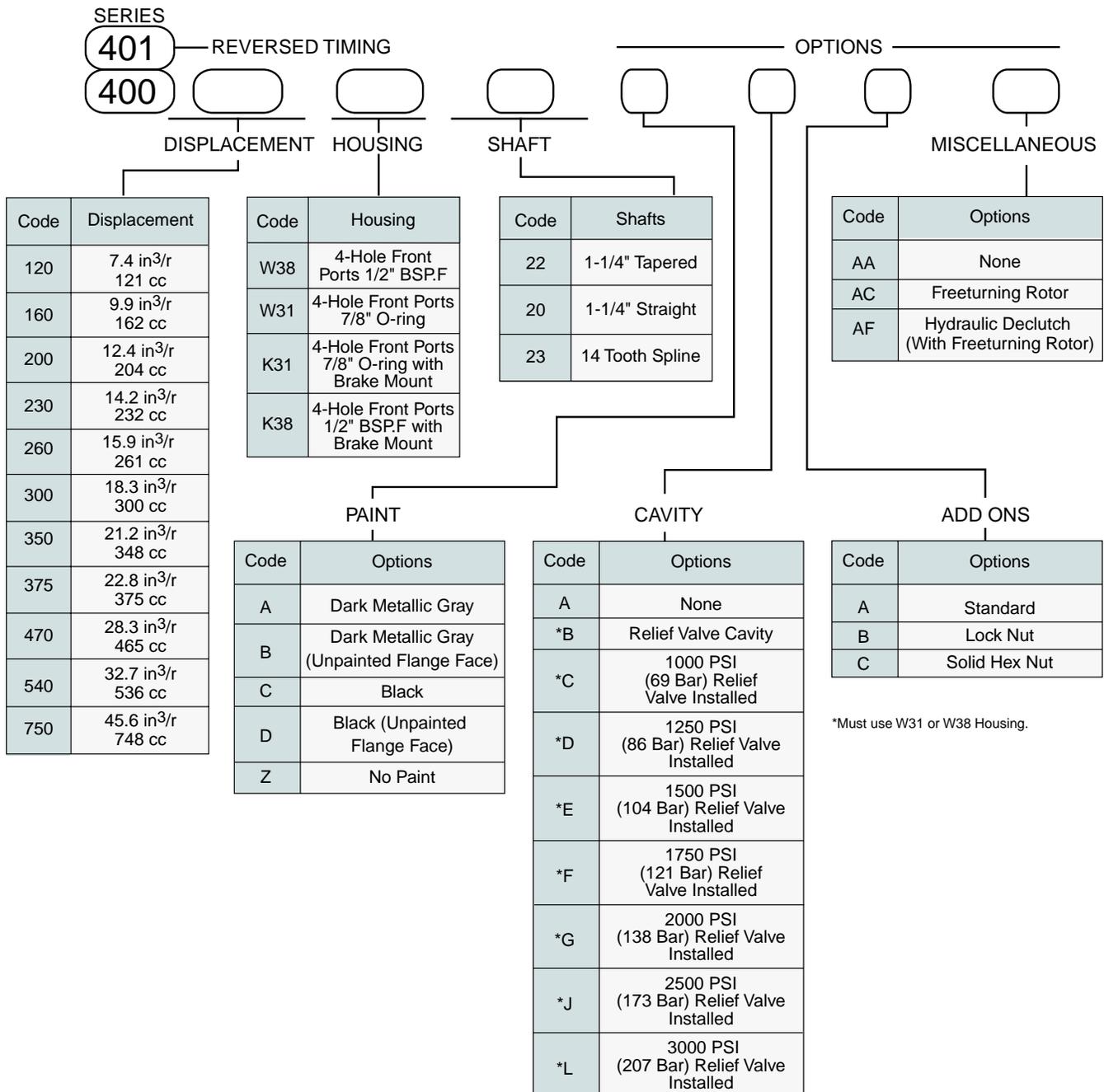
RPM	Multiplication Factor
50	1.23
100	1.00
200	0.81
300	0.72
400	0.66
500	0.62
600	0.58
700	0.56
800	0.50

•Rotation Selection



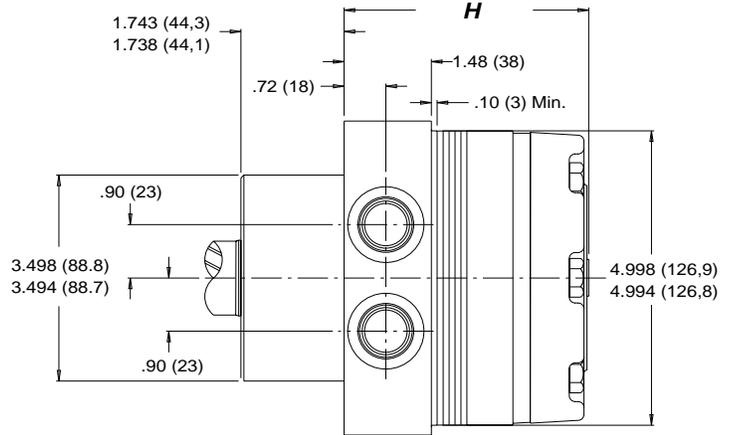
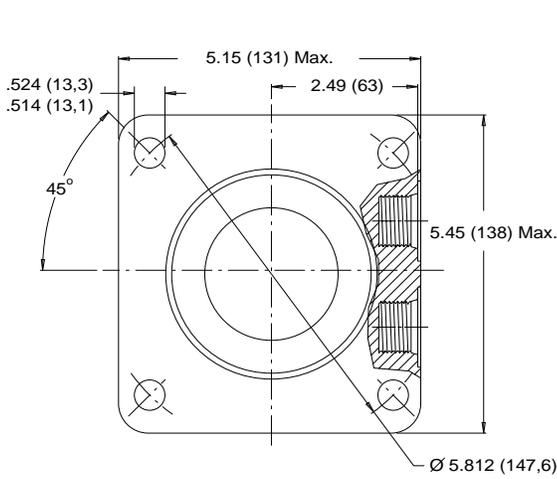
For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the “A” port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bidirectional applications, the 400 series is recommended. Preferred rotation is determined by internal valving design.

•Ordering Information

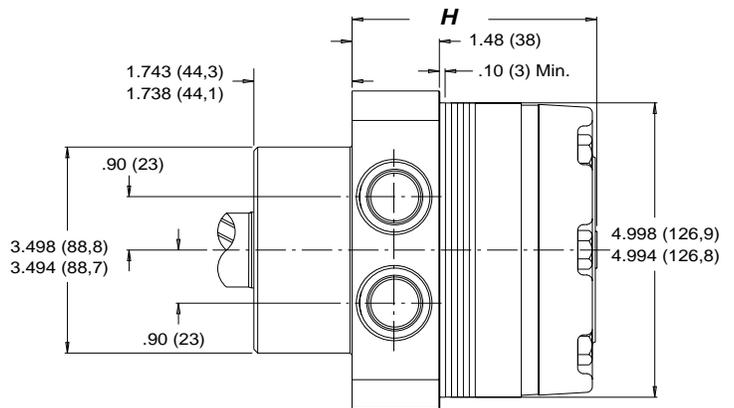
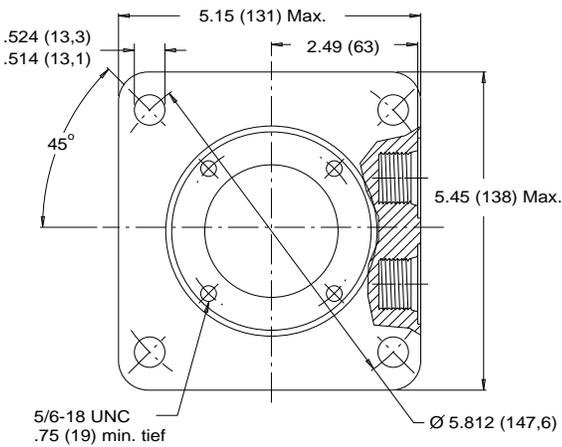


•Housings Wheel Mount

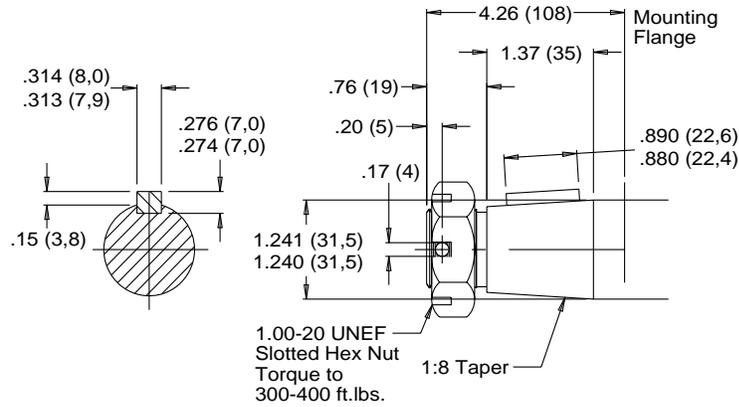
W35	4-Hole 9/16" O-Ring Ports
W38	4-Hole 1/2" BSP.F Ports
W31	4-Hole 7/8" O-Ring Ports



K35	4-Hole 9/16" O-Ring Ports with Brake Mount
K38	4-Hole 1/2" BSP.F Ports with Brake Mount
K31	4-Hole 7/8" O-Ring Ports with Brake Mount



22 1-1/4" Tapered



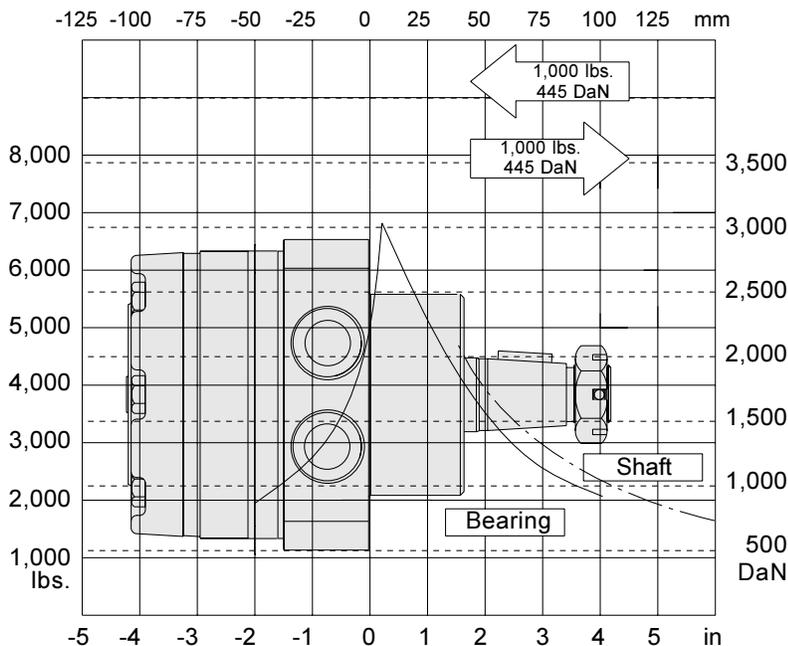
•Technical

Allowable Bearing And Shaft Loads

Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table located on page 12.

Shaft Curve: The shaft curve represents a 3:1 safety factor based on a tensile strength of 330 kpsi.

Wheel Mount



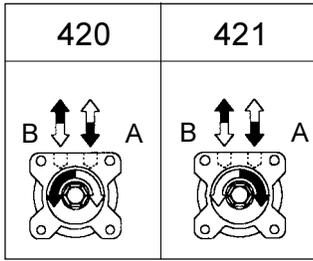
Length and Weight Tables

Wheel Mount

Disp. Code	Dim. H in (mm)	Weight lbs (kg)
120	3.91 (99)	24.1 (10,9)
160	3.91 (99)	24.1 (10,9)
200	4.05 (103)	24.8 (11,3)
230	4.15 (105)	25.2 (11,4)
260	4.24 (108)	25.6 (11,6)
300	4.37 (111)	26.3 (11,9)
350	4.92 (125)	28.8 (13,1)
375	4.62 (117)	27.4 (12,4)
470	4.92 (125)	28.8 (13,1)
540	5.16 (131)	30.0 (13,6)
750	5.87 (149)	33.1 (15,0)

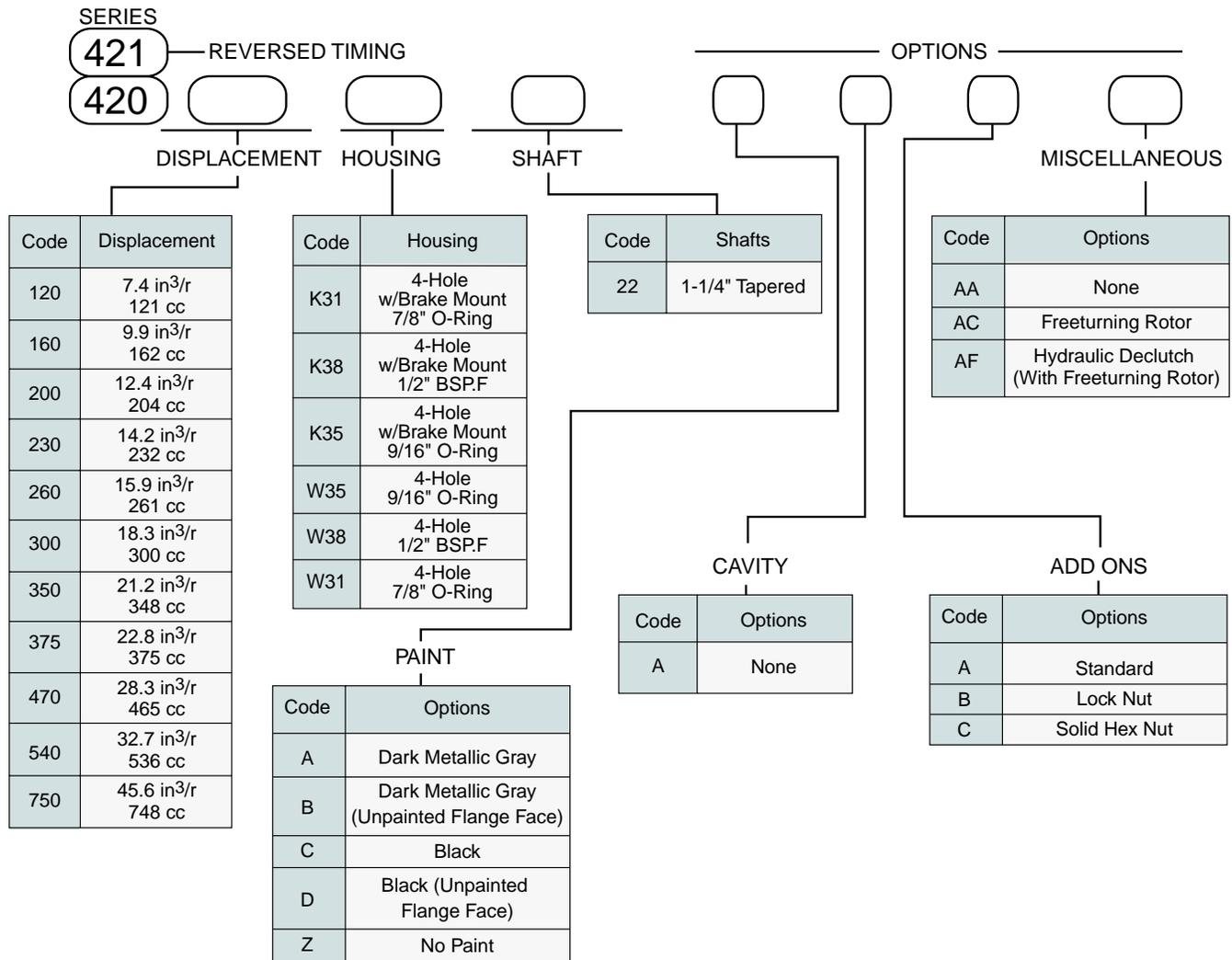
CE motor weights vary ± 1 lb (.45 kg) depending upon motor configuration.

•Rotation Selection



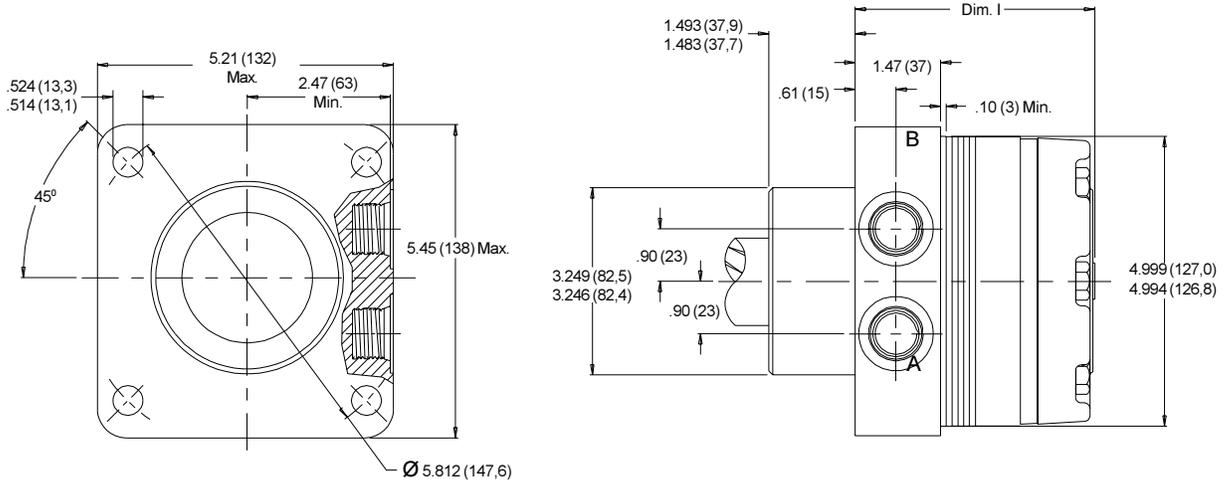
For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the “A” port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bidirectional applications, the 420 series is recommended. Preferred rotation is determined by internal valving design.

•Ordering Information

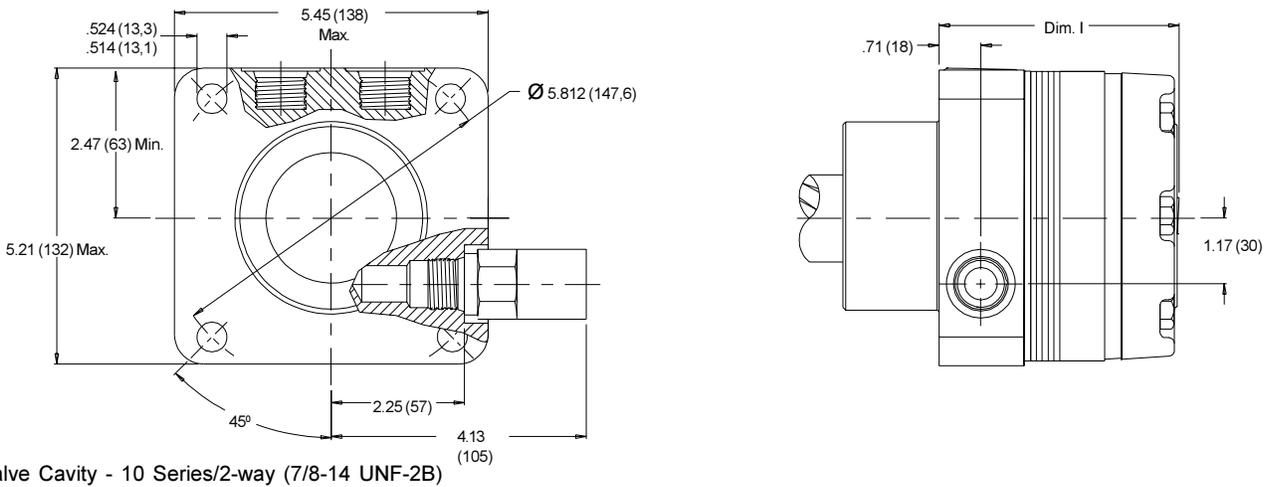


•Housings Wheel Mount

W31	4-Hole Front Aligned Ports 7/8" O-Ring
W38	4-Hole Front Aligned Ports 1/2" BSP.F

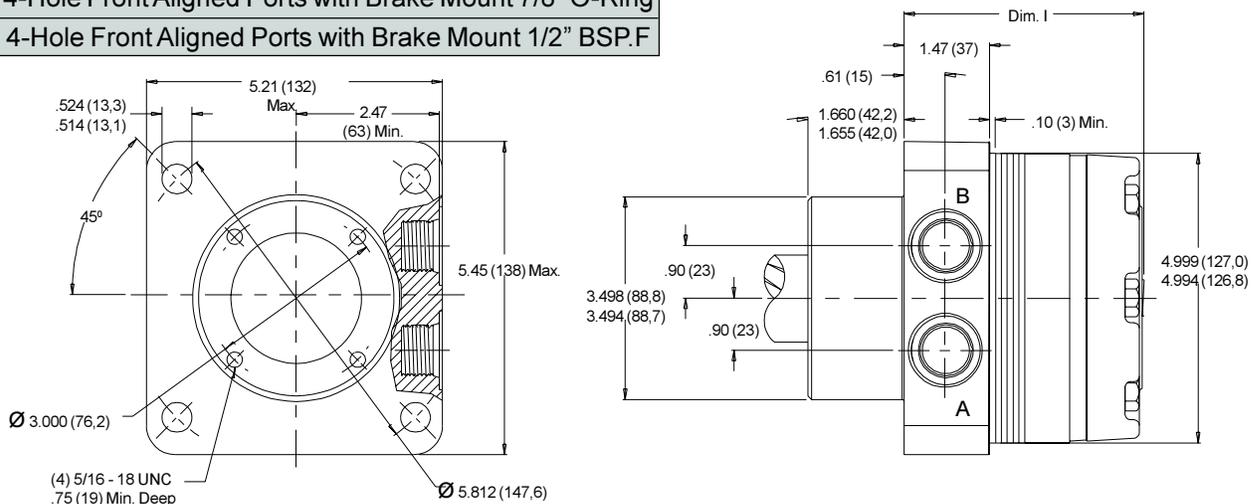


Optional Relief Cartridge Shown Installed and is available for both the W31 and W38 housings



Valve Cavity - 10 Series/2-way (7/8-14 UNF-2B)

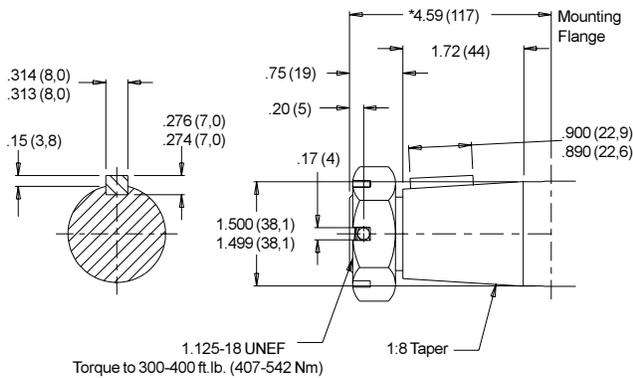
K31	4-Hole Front Aligned Ports with Brake Mount 7/8" O-Ring
K38	4-Hole Front Aligned Ports with Brake Mount 1/2" BSP.F



•Shafts

31 1-1/2" Tapered

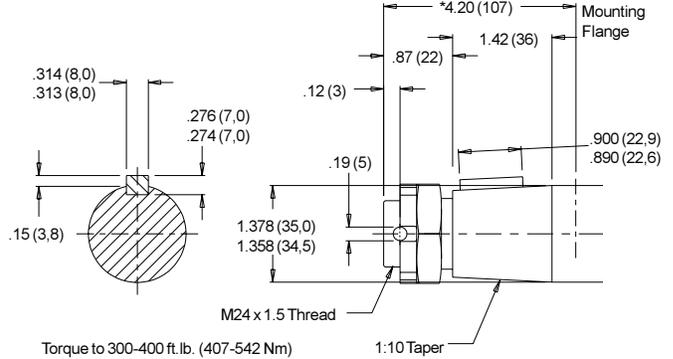
Max. Torque: 10,600 lb-in
1,200 Nm



Note: A slotted nut is standard on this shaft.
*Shaft lengths vary ± .030 in (.8mm)

28 35mm Tapered

Max. Torque: 10,600 lb-in
1,200 Nm

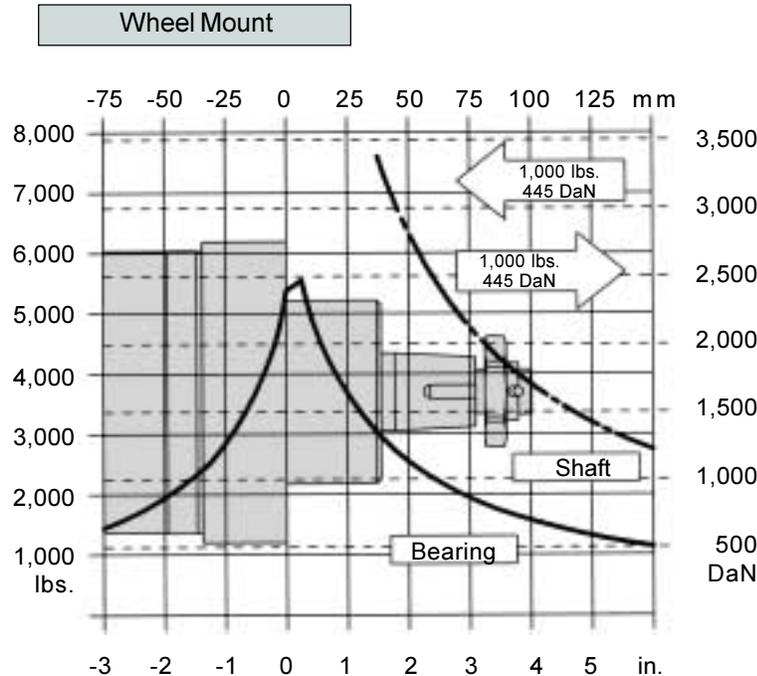


•Technical

Allowable Bearing And Shaft Loads

Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table located on page 12.

Shaft Curve: The shaft curve represents a 3:1 safety factor based on a tensile strength of 330 kpsi.



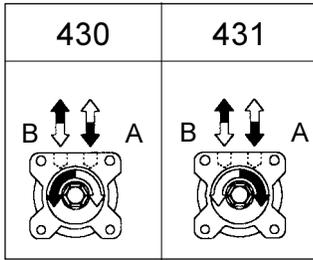
Length and Weight Tables

Wheel Mount

Disp. Code	Dim. I in (mm)	Weight lbs (kg)
120	3.91 (99)	24.1 (10,9)
160	3.91 (99)	24.1 (10,9)
200	4.05 (103)	24.8 (11,3)
230	4.15 (105)	25.2 (11,4)
260	4.24 (108)	25.6 (11,6)
300	4.37 (111)	26.3 (11,9)
350	4.92 (125)	28.8 (13,1)
375	4.62 (117)	27.4 (12,4)
470	4.92 (125)	28.8 (13,1)
540	5.16 (131)	30.0 (13,6)
750	5.87 (149)	33.1 (15,0)

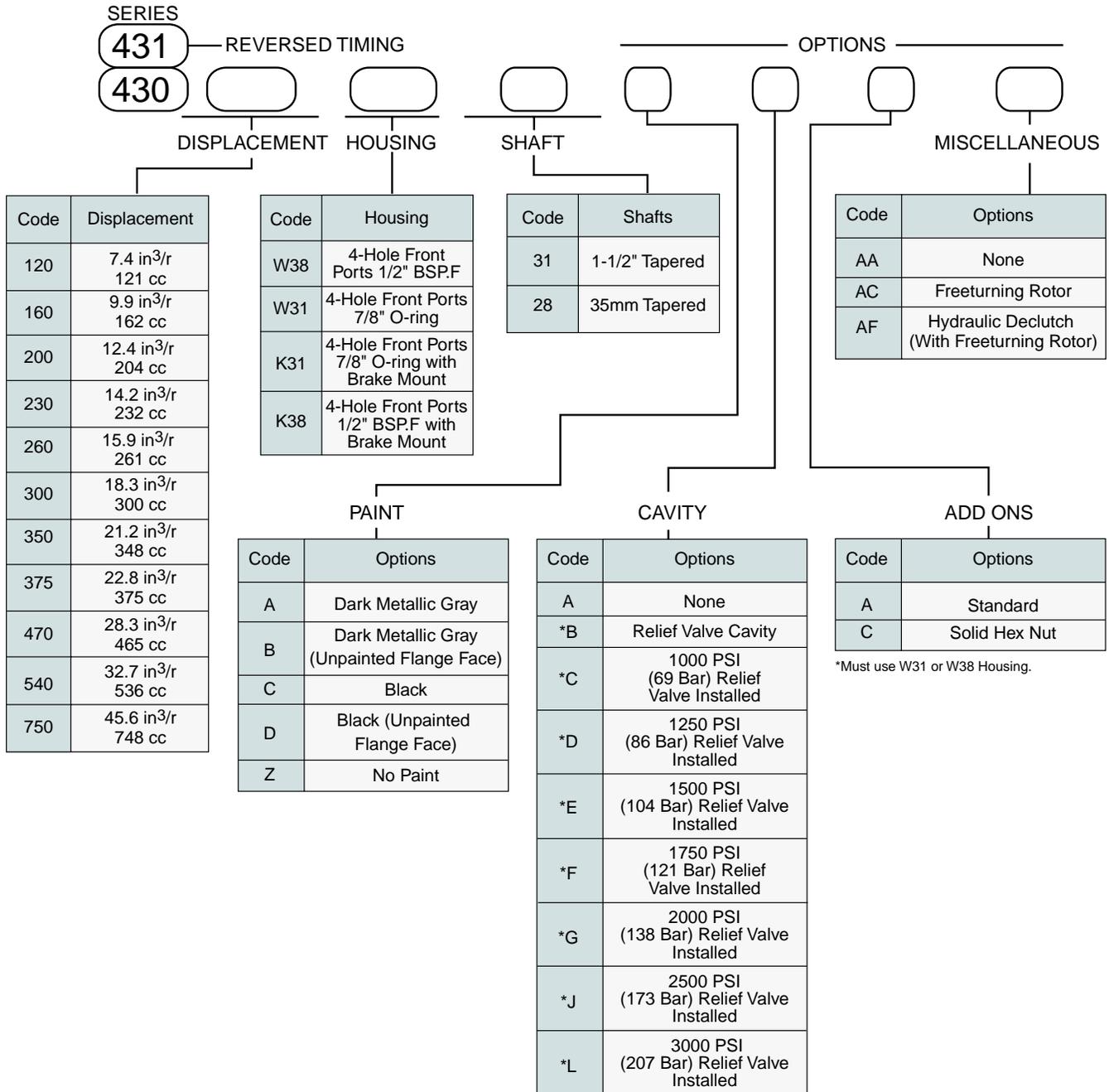
CE motor weights vary ± 1 lb. (.45 kg) depending upon motor configuration.

•Rotation Selection



For applications requiring the motor to rotate in only one direction, shaft seal life may be prolonged by pressurizing the “A” port of the motor. To obtain the desired direction of shaft rotation, use the graphic at the left to determine the rotation code for the motor. For bidirectional applications, the 430 series is recommended. Preferred rotation is determined by internal valving design.

•Ordering Information



•Description

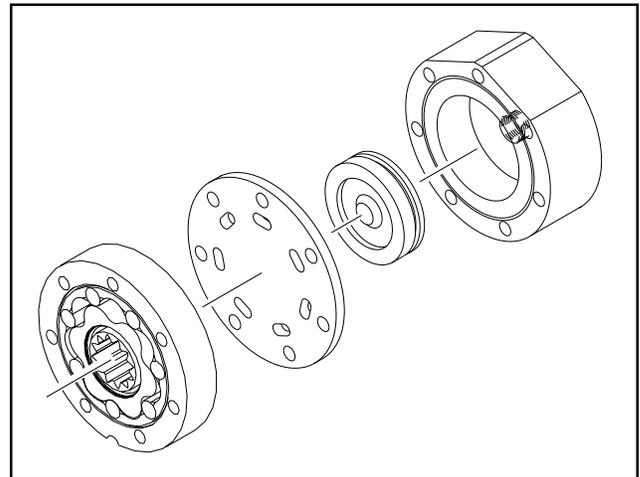
The declutch or “J” option, available on the RE and CE Series motors, has been specifically designed for applications requiring the motor to have the ability to “freewheel” when not pressurized. By making minor changes to the components used within the motor, the torque required to turn the output shaft is minimal. Selection of this option allows freewheeling speeds up to 1,000 RPM depending on the displacement of the motor and duty cycle of the application.

To allow the motor to perform this function, the standard rotor assembly is replaced with a freeturn rotor assembly. Next, the standard balance plate and endcover is replaced with a special wear plate and ported endcover. The wear plate features seven holes that connect the stator pockets to each other. The ported endcover features a movable piston capable of sealing the seven holes in the wear plate.

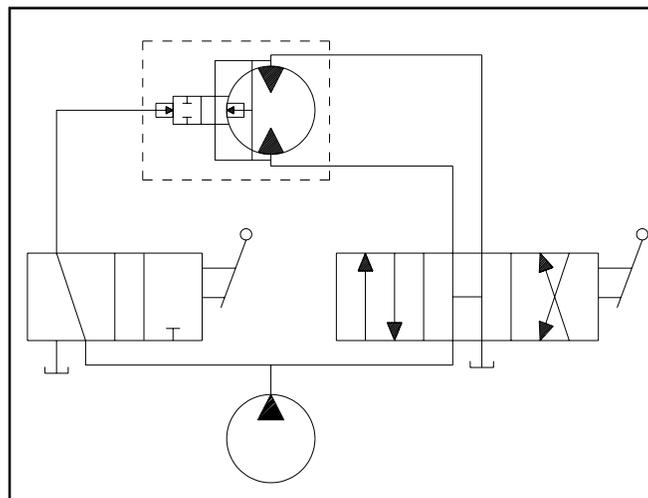


When standard motor function is required, pressure is supplied to the endcover port, moving the piston against the wear plate. This action seals the seven holes allowing the motor to function as normal. However, when pressure is removed from the endcover port, the pressure created by the turning rotor assembly pushes the piston away from the wear plate, opening the rotor pockets to each other. In this condition, the oil may circulate freely within the rotor and endcover assemblies, allowing the rotor assembly to rotate freely within the motor.

This option is especially useful in applications ranging from winch drives to towable wheel drives. Depending on the valves and hydraulic circuitry, operation of the freewheel function may be manually or automatically selected. A basic schematic is shown below.



•Connections



•Features



High Efficiency CE series Motor
provides exceptional low speed performance in one of the smallest wheel drive packages available today

Self-Adjusting Brake Mechanism
makes brake adjustments unnecessary by automatically adjusting for brake wear and cable stretch

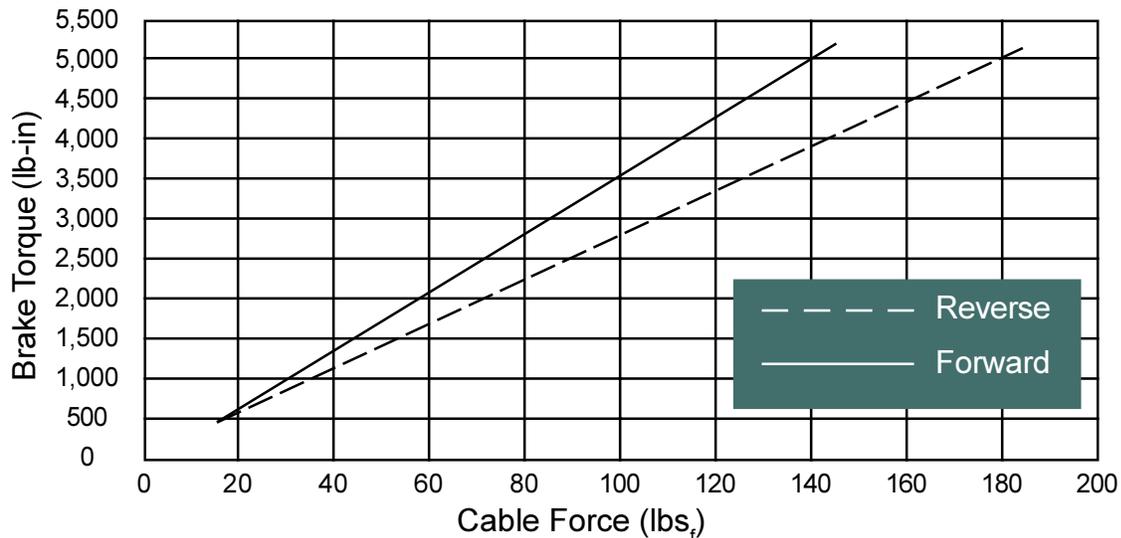
Standard Wheel Mount Flange
adapts easily to new designs and can be retrofitted onto older machines

4 and 5 Bolt Wheel Hubs
are available to accommodate a wide variety of wheel rims

Labyrinth Lip Seal Design
incorporated into hub helps protect brake components from elements

2-Position Brake Lever
provides flexibility in the attachment of brake cables or actuating linkage

•Brake Holding Torque

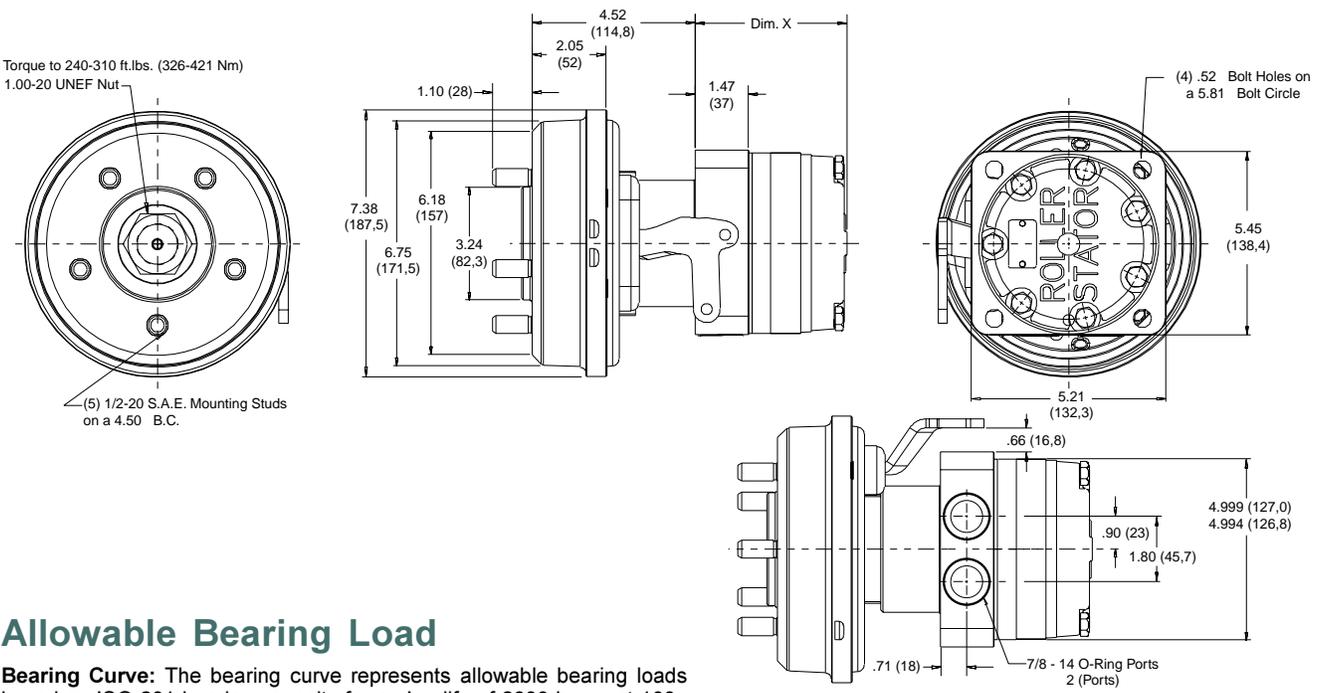


CE / Integral Drum Brake



•Housings

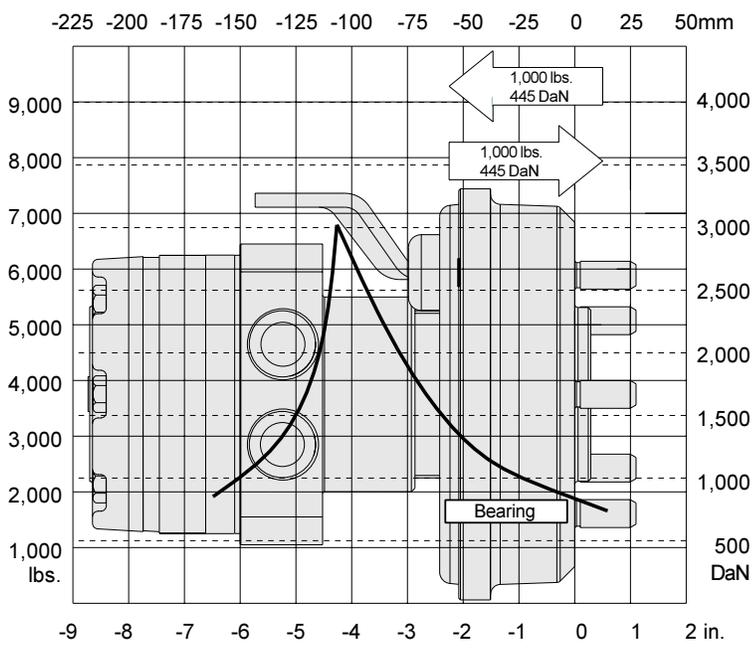
K35	4-Hole 9/16" O-Ring Ports with Brake Mount
K38	4-Hole 1/2" BSP.F Ports with Brake Mount
K31	4-Hole 7/8" O-Ring Ports with Brake Mount



Allowable Bearing Load

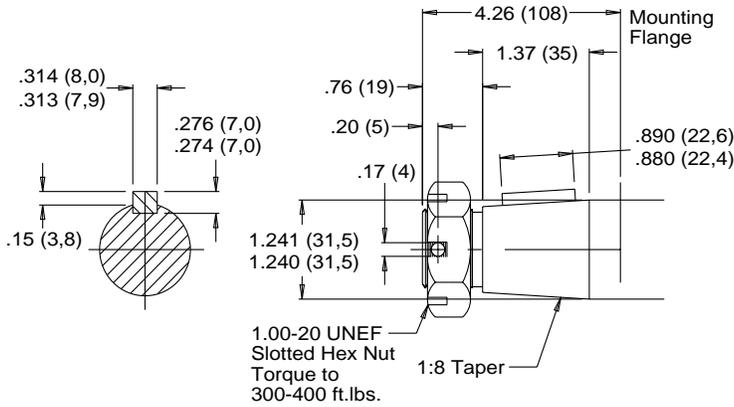
Bearing Curve: The bearing curve represents allowable bearing loads based on ISO 281 bearing capacity for an L_{10} life of 2000 hours at 100 RPM. Radial loads for speeds other than 100 RPM may be calculated using the multiplication factor table located on page 12.

Wheel Mount with Brake



• Shaft

22 1-1/4" Tapered



Length and Weight Tables

Wheel Mount with Brake

Disp. Code	Dim. X in (mm)	Weight lbs (kg)
120	3.91 (99)	35.2 (16,0)
160	3.91 (99)	35.2 (16,0)
200	4.05 (103)	35.9 (16,3)
230	4.15 (105)	36.3 (16,5)
260	4.24 (108)	36.7 (16,7)
300	4.37 (111)	37.4 (17,0)
350	4.92 (125)	39.9 (18,1)
375	4.62 (117)	38.5 (17,5)
470	4.92 (125)	39.9 (18,1)
540	5.16 (131)	41.1 (18,7)
750	5.87 (149)	44.2 (20,1)

CE motor weights vary ± 1 lb. (.45 kg) depending upon motor configuration.

• Ordering Information

