

Motors



Allison Hydraulics



Index

Low speed/High torque motors

WM Series

Page 3



- Displacements up to 40 cc
- Max. speeds up to 1521 rpm (Continuous)
- Max. torque up to 49 Nm

WP Series

Page 5



- Displacements up to 388 cc
- Max. speeds up to 1208 rpm (Continuous)
- Max. torque up to 488 Nm

WR Series

Page 7



- Displacements up to 400 cc
- Max. speeds up to 1116 rpm (Continuous)
- Max. torque up to 551 Nm

WS Series

Page 9



- Displacements up to 496 cc
- Max. speeds up to 745 rpm (Continuous)
- Max. torque up to 824 Nm

RE Series

Page 11



- Displacements up to 748 cc
- Max. speeds up to 360 rpm (Continuous)
- Max. torque up to 1062 Nm

DT Series

Page 13



- Displacements up to 2093 cc
- Max. speeds up to 320 rpm (Continuous)
- Max. torque up to 2661 daNm

SB Series brake

Page 15



- For use with a standard motor or as a stand-alone unit
- Holding torque up to 620 Nm

Overview:

The WM Series with spool valve design is an economical motor with integrated rotor technology. Intended for light duty applications, the WM series offers many advantages such as compact size, high speed, medium torque and extreme low weight.

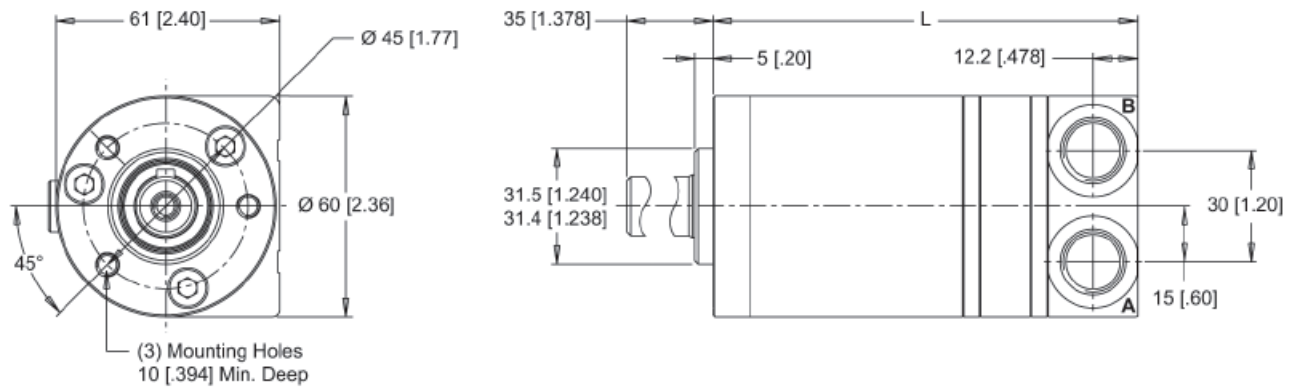
The WM series motors are used primarily in the mobile, industrial and agricultural markets.



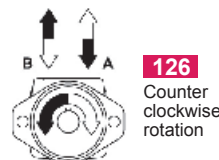
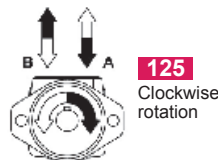
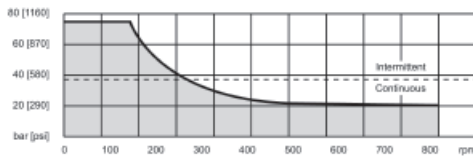
Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
012	13	1521	1871	20	25	17	22	100	140	200
020	20	989	1229	20	25	26	34	100	140	200
032	32	622	767	20	25	40	55	100	140	160
040	40	495	620	20	25	49	64	100	140	160

Dimensions:



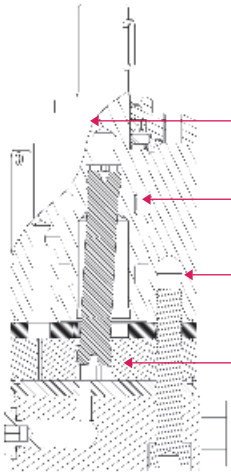
Permissible shaft seal pressure



Length/weight chart		
Dimension L		
Code	mm	kg
012	108	2.2
020	110	2.3
032	115	2.3
040	118	2.4



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Components

- Variety of mounts and shafts provide flexibility in application designs.
- Spool valve design gives superior performance and smooth operation over a wide speed and torque range.
- Built-in check valves in the housing offers versatility and increased seal life.
- Integral rotor design provides smooth performance, compact volume and low weight.

Model code

125	012	JKB	C4	B	A	A	AA
<p>Series: 125 = clockwise rotation 126 = counter clockwise rotation</p> <p>Displacement: (see chart)</p> <p>Housing: JKB = 3-hole M6 round mount, 3/8-19 BSP.F side ports</p> <p>Shaft: C4 = 16mm straight (other options available)</p>					<p>Miscellaneous AA = none</p> <p>Add on option A = standard (other options available)</p> <p>Valve cavity and installed valve: A = none</p> <p>Paint option: A = black B = black (unpainted flange) as standard</p>		



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Overview:

The WP motor series is an economical alternative to more complex geroler designs that still provides high efficiency across a wide performance range.

These motors are intended for medium-duty applications requiring high torque in a compact package and are suitable for industrial and mobile applications including car wash brushes, food processing equipment, conveyors, machine tools, agricultural equipment, sweepers, skid steer attachments, and more.

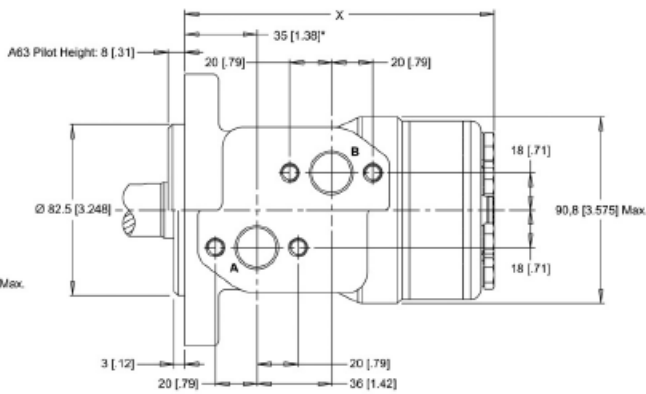
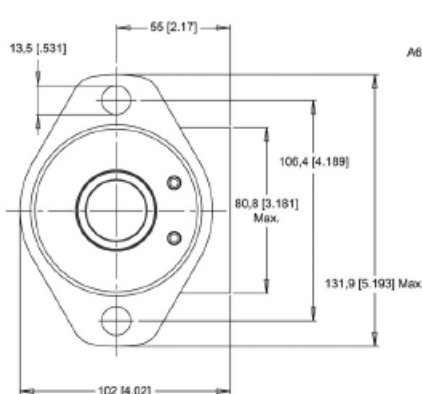
Main features include the variety of mounts and shafts that are available, a high pressure shaft seal and spool valve design offering superior seal life and performance and built-in check valves in the housing providing versatility and increased seal life.



Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
025	25	1570	1687	40	45	35	48	100 (1450)	140 (2030)	225 (3260)
032	32	1550	1674	50	55	45	57	100 (1450)	140 (2030)	225 (3260)
040	40	1471	1670	60	70	65	74	100 (1450)	140 (2030)	225 (3260)
050	50	1208	1500	60	75	91	108	140 (2030)	175 (2540)	240 (3480)
060	59	1185	1271	60	75	125	136	160 (2320)	175 (2540)	240 (3480)
080	78	896	960	60	75	164	183	160 (2320)	175 (2540)	240 (3480)
100	96	728	780	60	75	195	213	160 (2320)	175 (2540)	240 (3480)
125	125	559	599	60	75	258	278	160 (2320)	175 (2540)	240 (3480)
160	154	452	483	60	75	321	362	160 (2320)	175 (2540)	240 (3480)
200	190	367	385	60	75	380	420	150 (2180)	175 (2540)	240 (3480)
250	240	291	312	60	75	445	557	140 (2030)	175 (2540)	240 (3480)
315	303	228	245	60	75	460	602	120 (1740)	160 (2320)	200 (2900)
400	388	155	189	60	75	488	625	95 (1380)	125 (1810)	180 (2610)

Dimensions:

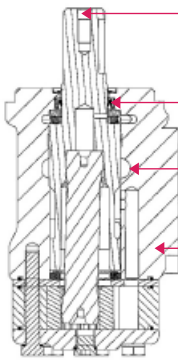


Code	mm	kg
050	136	6.5
060	137	6.5
080	139	6.6
100	142	6.7
125	146	6.8
160	150	6.9
200	155	7.1
250	162	7.3
315	170	7.6
400	181	7.9



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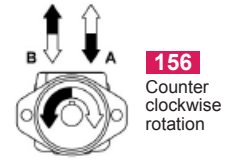
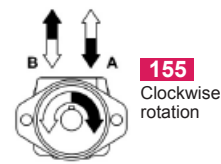
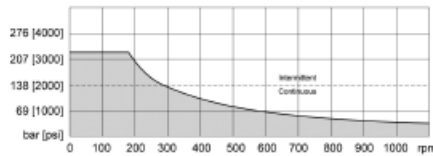
Components



- Variety of mounts and shafts provide flexibility in application design
- High pressure shaft seal offers superior seal life and performance
- Spool valve design gives superior performance and smooth operation over a wide speed and torque range
- Built-in check valves (not shown) in the housing offers versatility and increased seal life

Permissible shaft seal pressure

The curve represents allowable seal pressure at various speeds. Operation in the grey area results in maintaining the rated life of the shaft seal. Actual shaft seal pressure depends on motor configuration.



Model code

155	025	A63	12	B	A	A	AA
<p>Series 155 = clockwise rotation 156 = counter clockwise rotation</p> <p>Displacement (see chart)</p> <p>Housing A63 = 2-hole 1/2" BSP.F Offset manifold 8mm pilot F31 = 4-hole 7/8" O-ring aligned ports (other options available)</p> <p>Shaft 04 = 6B (M8 x 1.25 tap) 10 = 1" straight 12 = 25mm straight (other options available)</p>						<p>Miscellaneous AA = none AC = Freeturning rotor</p> <p>Add on option A = standard (other options available)</p> <p>Valve cavity and installed valve A = standard B = relief valve cavity (other options available)</p> <p>Paint: B = black (unpainted flange) (as standard)</p>	



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Overview:

The WR Series motor incorporates the latest advances for smooth performance, efficiency and durability. It features an optimized Roller Stator® geometry with seven precision rollers to eliminate sliding friction and provide rolling contact between the rotor and stator. This increases motor efficiency. A three-zone spool valve, integral check valves and a provision for a case drain reduce pressure on internal seals to improve product life.

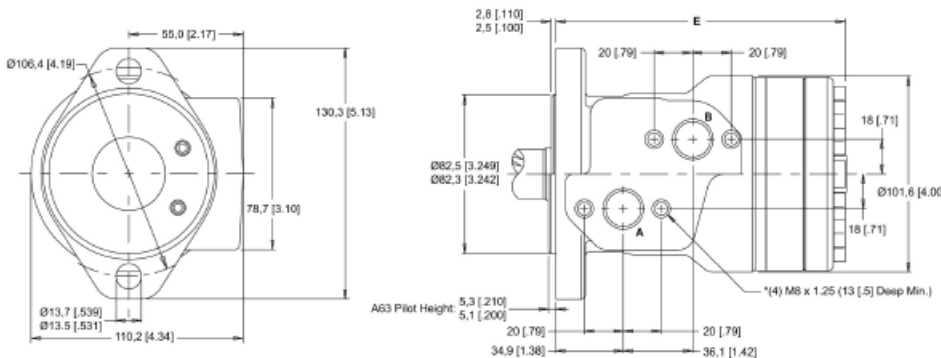
A wide variety of mounting, shaft, motor displacement and porting options are available to meet all application needs.



Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
040	40	1116	1515	45	61	93	123	155 (2250)	207 (3000)	224 (3250)
060	59	890	1142	53	68	138	172	155 (2250)	207 (3000)	224 (3250)
070	71	865	1078	61	76	176	207	172 (2500)	207 (3000)	241 (3500)
090	88	691	864	61	76	222	263	172 (2500)	207 (3000)	241 (3500)
100	100	610	760	61	76	246	289	172 (2500)	207 (3000)	241 (3500)
115	113	539	672	61	76	284	327	172 (2500)	207 (3000)	241 (3500)
130	129	472	588	61	76	316	375	172 (2500)	207 (3000)	241 (3500)
160	160	379	469	61	76	400	454	172 (2500)	207 (3000)	241 (3500)
200	198	308	384	61	76	462	544	172 (2500)	207 (3000)	241 (3500)
240	236	249	315	61	76	548	642	172 (2500)	207 (3000)	224 (3250)
320	322	188	235	61	76	518	690	121 (1750)	172 (2500)	190 (2750)
400	400	152	190	61	76	551	698	104 (1500)	138 (2000)	155 (2250)

Dimensions:



Length/weight chart

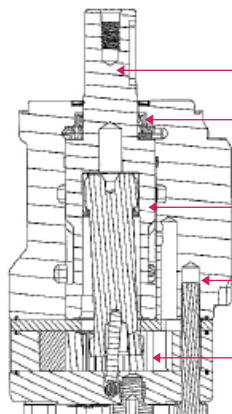
SAE A mount - Dimension E

Code	mm	kg
040	142	6.6
060	146	6.7
070	147	6.7
090	151	6.8
100	154	6.9
115	156	7.1
130	160	7.3
160	166	7.5
200	173	8.0
240	182	8.5
320	198	9.0
400	213	9.8



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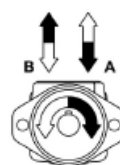
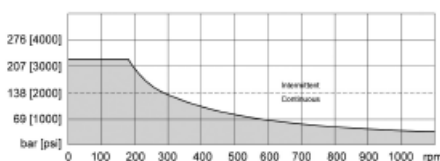
Components



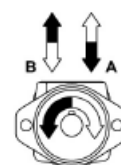
- Variety of mounts and shafts provide flexibility in application design
- High pressure shaft seal offers superior seal life and performance
- Spool valve design gives superior performance and smooth operation over a wide speed and torque range
- Built-in check valves (not shown) in the housing offers versatility and increased seal life
- Optimised Roller Stator® geometry provides a smooth running high efficient product

Permissible shaft seal pressure

The curve represents allowable seal pressure at various speeds. Operation in the grey area results in maintaining the rated life of the shaft seal. Actual shaft seal pressure depends on motor configuration.



255
Clockwise rotation



256
Counter clockwise rotation

Model code

255	040	A63	12	B	A	A	AA
<p>Series 255 = clockwise rotation 256 = counter clockwise rotation</p>						<p>Miscellaneous AA = none</p>	
<p>Displacement (see chart)</p>						<p>Add on option A = standard (other options available)</p>	
<p>Housing A63 = 2-hole 1/2" BSP.F Offset manifold w/5.1mm pilot F31 = 4-hole 7/8" O-ring aligned ports (s) (other options available)</p>						<p>Valve cavity and installed valve A = standard B = relief valve cavity (other options available)</p>	
<p>Shaft 04 = 1" 6-B spline M8 tap 10 = 1" straight 5/16" tap 12 = 25mm straight (other options available)</p>						<p>Paint: B = black (unpainted flange) (as standard)</p>	



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Overview:

The WS product family features flow rates up to 76 LPM, torque up to 824 Nm and pressures up to 207 bar [3000 PSI] at continuous ratings. The WS targets agricultural equipment, skid steer attachments, and other applications that require greater torque under demanding conditions. A distinguishing feature of the WS in relation to competitive products is its heavy duty drive link with a larger pitch diameter. This enables the WS to better withstand pressure and torque spikes and is reflected in its intermittent and peak performance ratings.

Additional product features include a three zone commutator valve, heavy-duty tapered roller bearings, and case drain with integral internal drain.

The WS offers displacements from 80cc to 496cc. Nine (9) shaft and seven (7) mounting options are available to meet the most common SAE and European requirements.

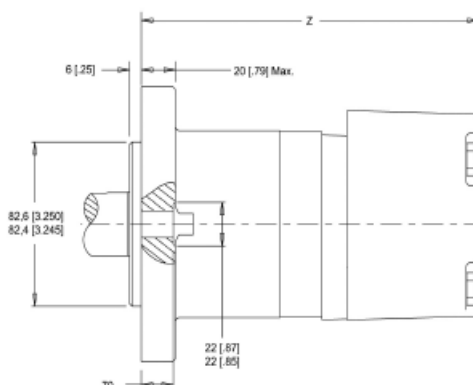
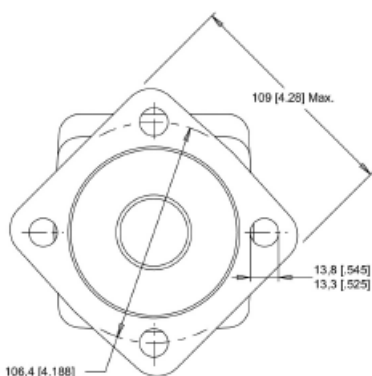


Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
100	100	745	880	76	95	280	416	207 (3000)	310 (4500)	310 (4500)
110	112	675	840	76	95	307	468	207 (3000)	310 (4500)	310 (4500)
130	129	580	730	76	95	370	550	207 (3000)	310 (4500)	310 (4500)
160	162	465	700	76	114	462	618	207 (3000)	276 (4000)	310 (4500)
200	202	375	560	76	114	576	768	207 (3000)	276 (4000)	310 (4500)
230	228	325	490	76	114	642	806	207 (3000)	276 (4000)	310 (4500)
320	325	235	350	76	114	789	1029	190(2750)	224 (3250)	259 (3750)
400	399	190	280	76	114	816	1034	155 (2250)	190 (2750)	224 (3250)
500	496	155	230	76	114	824	1041	121 (1750)	155 (2250)	172 (2500)

Dimensions:

AH 4-hole square SAE A mount with side ports

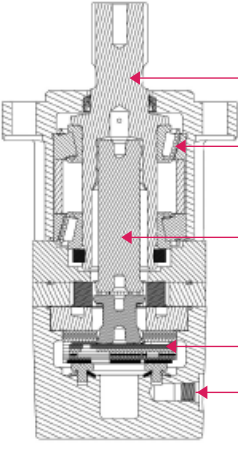


NOTE: AH-3 as standard

Code	mm	kg
100	153	12.0
110	155	12.2
130	159	12.4
160	165	12.8
200	173	13.1
230	179	13.5
320	197	14.5
400	197	14.5
500	212	15.3



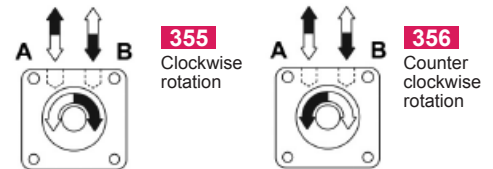
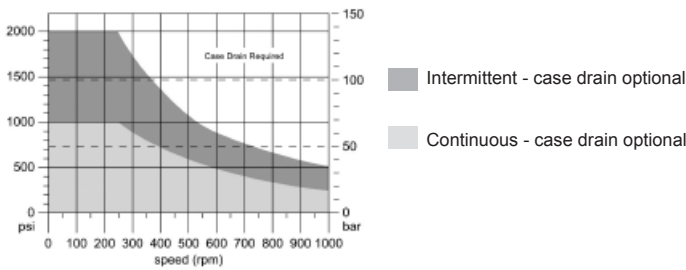
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Components

- Nine shaft and seven mounting options to meet the most common SAE and European requirements
- Heavy duty tapered roller bearings for extra side load capacity
- Heavy duty drive link with larger pitch diameter than competitors for greater resistance to pressure and torque spikes
- Three zone commutator valve for high flow capacity
- Standard case drain with integral internal drain for extended shaft seal life

Permissible shaft seal pressure



Model code

355	100	AH	3	21	A	A	A	AA
<p>Series 355 = clockwise rotation 356 = counter clockwise rotation</p> <p>Displacement (see chart)</p> <p>Housing A8 = 4-hole magneto with side ports AH = 4-hole square SAE A mount with side ports S8 = short motor with side ports W8 = 4-hole 3.25" pilot wheel mount with side ports (other options available)</p> <p>Ports 3 = 1/2" BSP.F offset manifold with 1/4" drain (other options available)</p>							<p>Miscellaneous AA = none</p> <p>Add on option A = standard (other options available)</p> <p>Valve cavity and installed valve A = none as standard (other options available)</p> <p>Paint: A = black as standard</p> <p>Shaft 12 = 25mm straight 21 = 32mm straight as standard 23 = 14 tooth spline 0A = Cardan (drive link only)</p> <p>NOTE: The 0A shaft must be used on the short motor only.</p>	



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Overview:

RE Series motors offer the perfect compromise between price and performance by producing work horse power at a reasonable cost. Although these motors perform well in a wide range of applications, they are especially suited for low flow, high pressure applications. During startup, pressure causes the balance plate to flex toward the rotor, vastly improving volumetric efficiency.

As the motor reaches operating pressure, the balance plate relaxes, allowing the rotor to turn freely which translates into higher mechanical efficiencies.

Transmitting this power to the output shaft is the most durable drive link in its class.

Four bearing options, combined with standard mounting flanges and output shafts, allow the motor to be configured to suit nearly any application.



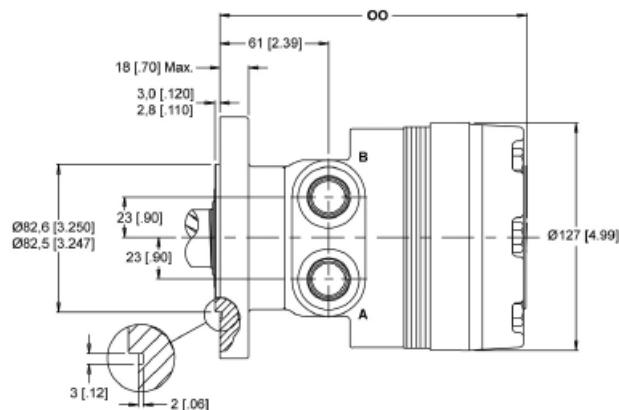
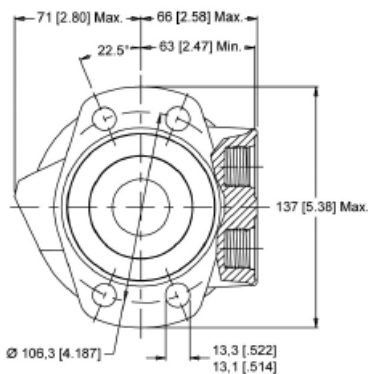
Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
120	121	360	490	45	61	327	383	207 (3000)	241 (3500)	276 (4000)
160	162	370	470	61	76	475	542	207 (3000)	241 (3500)	276 (4000)
200	204	300	370	68	83	542	633	207 (3000)	241 (3500)	276 (4000)
230	232	260	320	68	83	644	712	207 (3000)	241 (3500)	276 (4000)
260	261	260	350	76	91	712	791	207 (3000)	241 (3500)	276 (4000)
300	300	250	320	83	95	825	938	207 (3000)	241 (3500)	276 (4000)
350	348	220	270	83	95	921	1045	207 (3000)	241 (3500)	276 (4000)
375	375	200	250	76	91	1006	1158	207 (3000)	241 (3500)	276 (4000)
470	465	160	200	76	91	1096	1184	172 (2500)	189 (2750)	207 (3000)
540	536	140	170	76	91	983	1243	138 (2000)	172 (2500)	207 (3000)
750	748	100	130	76	91	1062	1237	103 (1500)	121 (1750)	138 (2000)

Dimensions:

A31 4-hole 7/8" O-ring aligned ports

A38 4-hole 1/2" BSP.F aligned ports



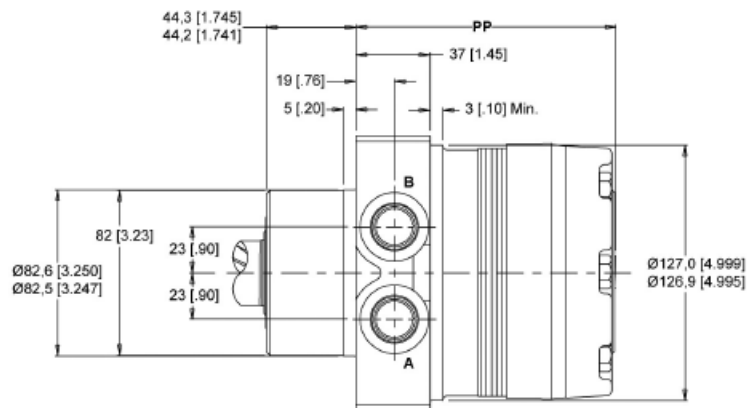
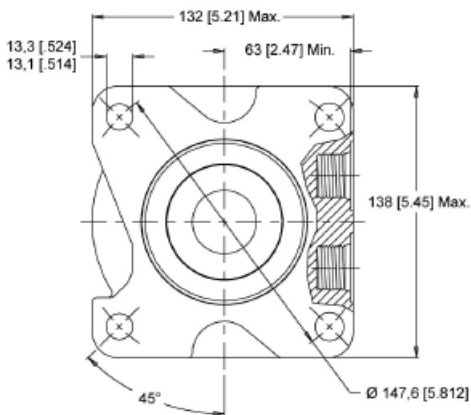
Length/weight chart SAE A mount - Dimension 00		
Code	mm	kg
120	162	10.6
160	162	10.6
200	165	11.0
230	168	11.1
260	170	11.3
300	174	11.7
350	187	12.8
375	180	12.2
470	187	12.8
540	194	13.3
750	212	14.8



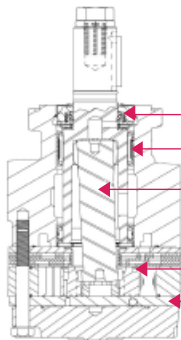
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W31 4-hole 7/8" O-ring aligned ports

W38 4-hole 1/2" BSP.F aligned ports



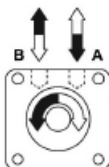
Components



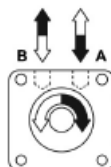
- High pressure shaft seal offers superior seal life and performance and eliminates need for case drain
- Three bearing options allow load carrying capability of motor to be matched to application
- Heavy duty drive link is the most durable in its class and receives full flow lubrication to provide long life
- Valve-in-rotor design provides cost effective, efficient distribution of oil and reduces overall motor length
- Pressure-compensated balance plate improves volumetric efficiency at low flows and high pressure

Model code

500	120	A31	12	A	A	A	AA
<p>Series 500 = counter clockwise rotation 501 = clockwise rotation</p> <p>Displacement (see chart)</p> <p>Housing A31 = 4-hole 7/8" O-ring aligned ports (s) A38 = 4-hole 1/2" BSP.F aligned ports (s) W31 = 4-hole 7/8" O-ring aligned ports W38 = 4-hole 1/2" BSP.F aligned ports (other options available)</p> <p>Shaft 12 = 25mm straight 20 = 1-1/4" tapered 21 = 32mm straight 22 = 1-1/4" tapered 23 = 14 tooth spline (other options available)</p>							<p>Miscellaneous AA = none</p> <p>Add on option A = standard B = lock nut</p> <p>Valve cavity A = none B = relief valve cavity C = 1000 psi relief valve installed D = 1250 psi relief valve installed E = 1500 psi relief valve installed F = 1750 psi relief valve installed G = 2000 psi relief valve installed J = 2500 psi relief valve installed L = 3000 psi relief valve installed</p> <p>Paint: A = black</p>



500
Counter clockwise rotation



501
Clockwise rotation



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Overview:

The most amazing aspect of the DT Series motor is its huge torque potential from its relatively small size. The DT Series motor is capable of producing output torque comparable to competitive designs, but from a package that is both shorter and lighter. The savings in space and weight in no way compromises durability, as the motor uses massive shafts, bearings and drive links to transmit the torque produced by this powerful package.

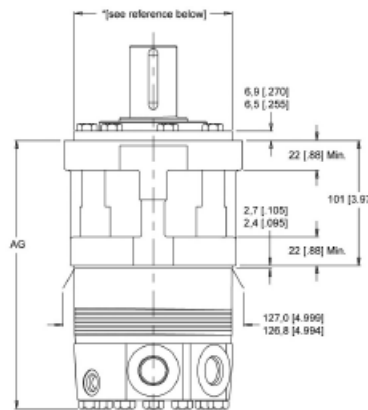
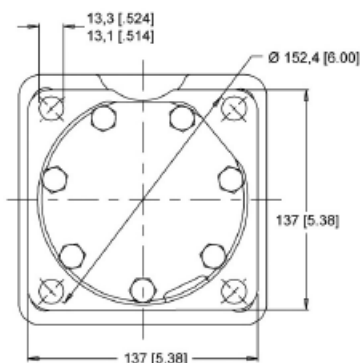
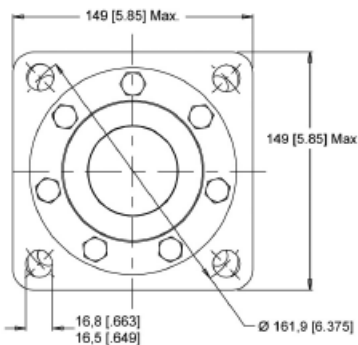
The use of a case drain allows reduced pressure on the shaft seal while maintaining driveline lubrication for maximum motor life. Standard mounting and shaft options offer interchangeability with competitive designs. An internal drain option is also available.



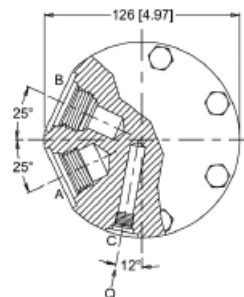
Main Characteristics:

Code	Displacement (cc/rev)	Max. Speed rpm		Max. Flow lpm		Max. Torque Nm		Max. Pressure bar (psi)		
		cont.	inter.	cont.	inter.	cont.	inter.	cont.	inter.	peak
300	300	320	380	95	114	819	955	207 (3000)	241 (3500)	259 (3750)
375	374	250	300	95	114	1045	1127	207 (3000)	224 (3250)	241 (3500)
470	464	200	240	95	114	1071	1390	172 (2500)	224 (3250)	241 (3500)
540	536	180	210	95	114	1277	1525	172 (2500)	207 (3000)	241 (3500)
750	747	130	150	95	114	1780	2090	172 (2500)	207 (3000)	241 (3500)
930	929	100	120	95	114	1780	2141	138 (2000)	172 (2500)	207 (3000)
1K1	1047	90	110	95	114	1915	2316	138 (2000)	172 (2500)	207 (3000)
1K5	1495	60	70	95	114	2090	2316	103 (1500)	121 (1750)	138 (2000)
2K1	2093	40	50	95	114	2661	3342	103 (1500)	121 (1750)	138 (2000)

Dimensions:



Note: *Dimension for the C2 & C8 is 127.0 (5.00) - 127.7 (4.99)
 *Dimension for the E2 & E8 is 124.9 (4.92) - 124.5 (4.90)

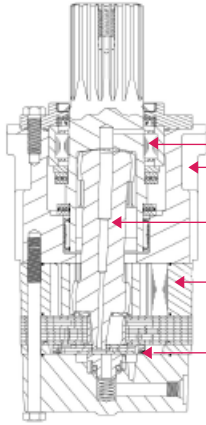


Note: Shown with standard case drain

Length/weight chart		
Standard mount - Dimension AG		
Code	mm	kg
300	209	20.2
375	216	20.8
470	223	21.4
540	230	21.9
750	248	23.3
930	263	24.4
1K1	273	25.3
1K5	311	28.3
2K1	362	32.3

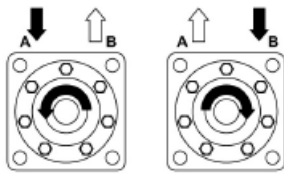


Allison Hydraulics



Components

- Heavy duty roller bearing supports high side loads and receives forced lubrication for cooling and increased life
- Compact housing contributes to high power-to-weight ratio of motors and offers front and rear mounting flanges
- Heavy duty drive link receives forced lubrication for long life and is capable of extreme duty cycles
- Roller Stator® motor available in displacements up to 2093cc (127.7 cid) for high torque output
- Three-zone orbiting valve precisely meters oil to produce exceptional volumetric efficiencies



NOTE: DT series motors do not have internal components that allow the motor to turn in either direction. Refer to the diagram on the left to determine which way the motor will turn when either port A or port B is pressurised.

Model code

700	300	E8	2	36	A	A	A	AA
------------	------------	-----------	----------	-----------	----------	----------	----------	-----------

Series
700 = DT series motor

Displacement
(see chart)

Housing
E8 = standard mount 125mm pilot side ports
(other options available)

Ports
2 = 3/4" BSP.F with 1/4" drain (radial ports) as standard
(other options available)

Shaft
36 = 40mm straight as standard
23 = 14 tooth spline
41 = 50mm straight
30 = 1-1/2" straight

Miscellaneous
AA = none
AB = internal drain

Add on option
A = standard
(other options available)

Valve cavity
A = none
(other options available)

Paint:
A = black as standard



Allison Hydraulics

Overview:

The SB Series is a multiple-wet-disc-brake that provides superior performance in an extremely compact package. Unlike conventional brakes offered today, the SB brake is performance-matched to fit the full range of small-frame SAE A mount motors available today.

With an overall diameter of less than 137mm, the SB has a holding capacity in excess of 620 Nm and is easily mated to a variety of global industry standard motor mounting and shaft options. In addition, the SB Series can be used as a stand-alone brake solution without an input drive motor.

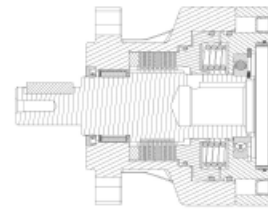
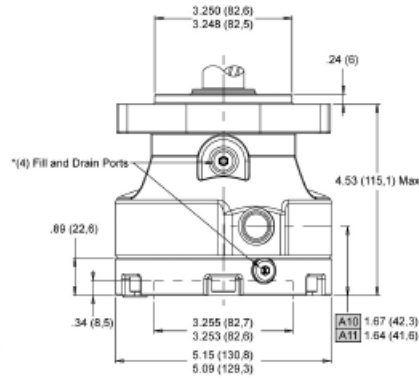
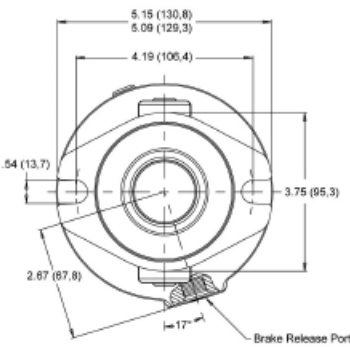
This option further opens design flexibility to meet a wider variety of application needs.



Main characteristics:

Code	225	315	415	520	620
Holding torque	225 Nm	315 Nm	415 Nm	520 Nm	620 Nm
Max. release pressure	250 bar				
Full release pressure	20 bar	20 bar	20 bar	31 bar	31 bar
Release volume	8.3 cc				
Unit weight	8 kg				

Dimensions:



Features:

- All wear components are fully immersed in fluid (wet multi-disc design)
- Performance-matched to fit small-frame motors with SAE A mount
- Release pressure independent of motor pressure
- Brake directly coupled to the output shaft
- Wide-variety of input and output shaft options
- Environmentally sealed / factory prefilled with oil

Model code

930	225	A11	ZW	B	A	A	AA	
Series SB series brake							Miscellaneous AA = standard*	
Holding torque (see chart)							Add on option A = standard	
Housing A11 = 2-hole 1/4" BSP,P release ports A31 = 4-hole 1/4" BSP,P release ports (other options available)							Valve cavity A = none	
Shaft ZW = 1" straight output with 6B spline input ZZ = 6B spline output with 6B spline input ZY = 25mm straight output with 25mm straight input ZX = 32mm straight output with 25mm straight input							Paint: B = black (unpainted flange face)	

Note: * The standard paint code for an SB brake with an input drive motor is the Z option (no paint).



Allison Hydraulics