

OMR versions and code numbers
OMR versions and code numbers
OMR standard motors
Mounting flange: 2 hole oval flange (A2)

Spigot diamer		Ø82.5 mm [3.25 in]						
Bolt circle diameter		Ø106.4 mm [4.20 in]						
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code
Cyl. Ø25 mm	G 1/2	Side port	-	-	Yes	-	OMR	A1
Cyl. Ø25 mm	G 1/2	Side port	G 1/4	-	Yes	Yes	OMR	A2
Cyl. Ø25 mm	G 1/2	End port	G 1/4	Yes	-	Yes	OMR	A3
Cyl. 1 in	G 1/2	Side port	-	-	Yes	-	OMR	A4
Cyl. 1 in	G 1/2	Side port	G 1/4	-	Yes	Yes	OMR	A5
Cyl. 1 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMR	A6
Splined 1 in	G 1/2	Side port	-	-	Yes	-	OMR	A7
Splined 1 in	G 1/2	Side port	G 1/4	-	Yes	Yes	OMR	A8
Splined 1 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMR	A9
Cyl. Ø32 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMR	A10
Tap. Ø28.5 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMR	A11

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
A1	151-0410	151-0411	151-0412	151-0413	151-0414	151-0415	151-0416	151-0417	151-0418
A2	151-0710	151-0711	151-0712	151-0713	151-0714	151-0715	151-0716	151-0717	151-0718
A3	151-6190	151-6191	151-6192	151-6193	151-6194	151-6195	151-6196	151-6197	151-6198
A4	151-0400	151-0401	151-0402	151-0403	151-0404	151-0405	151-0406	151-0407	151-0408
A5	151-0700	151-0701	151-0702	151-0703	151-0704	151-0705	151-0706	151-0707	151-0708
A6	151-7240	151-7241	151-7242	151-7243	151-7244	151-7245	151-7246	151-7247	151-7248
A7	151-0420	151-0421	151-0422	151-0423	151-0424	151-0425	151-0426	151-0427	151-0428
A8	151-0720	151-0721	151-0722	151-0723	151-0724	151-0725	151-0726	151-0727	151-0728
A9	151-7250	151-7251	151-7252	151-7253	151-7254	151-7255	151-7256	151-7257	151-7258
A10	151-0248	151-0242	151-0243	151-0208	151-0244	151-0245	151-0247	151-0246	151-6294
A11	151-0265	151-0266	151-0267	151-6295	151-0268	151-0269	151-0271	151-0270	151-6296

Mounting flange: 4 hole oval flange (A4)

Spigot diamer		Ø82.5 mm [3.25 in]						
Bolt circle diameter		Ø106.4 mm [4.20 in]						
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code
Cyl. Ø25 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMR	B1
Cyl. Ø32 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMR	B2
Cyl. Ø1 1/4 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMR	B3

OMR versions and code numbers

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
B1	151-6010	151-6011	151-6012	151-6013	151-6014	151-6015	151-6016	151-6017	151-6018
B2	151-6000	151-6001	151-6002	151-6003	151-6004	151-6005	151-6006	151-6007	151-6008
B3	151-6110	151-6111	151-6112	151-6113	151-6114	151-6115	151-6116	151-6117	151-6118

Mounting flange: Square flange (C)

Spigot diamer	Ø44.4 mm [1.75 in]								
Bolt circle diameter	Ø82.5 mm [3.25 in]								
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code	
Cyl. Ø25 mm	G 1/2	End port	G 1/4	Yes	-	Yes	OMR	C1	
Cyl. 1 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMR	C2	

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
C1	151-6210	151-6211	151-6212	151-6213	151-6214	151-6215	151-6216	151-6217	151-6218
C2	151-7260	151-7261	151-7262	151-7263	151-7264	151-7265	151-7266	151-7267	151-7269

OMR motors with corrosion resistant parts

Mounting flange: 2 hole oval flange (A2)

Spigot diamer	Ø82.5 mm [3.25 in]								
Bolt circle diameter	Ø106.4 mm [4.20 in]								
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code	
Cyl. Ø25 mm	G 1/2	Side port	G1/4	Yes	-	Yes	OMR C	D1	

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
D1	151-1231	151-1232	151-1233	151-1238	151-1234	151-1235	151-1236	151-1237	151-1243

OMR versions and code numbers
OMR motors with needle bearings
Mounting flange: 2 hole oval flange (A2)

Spigot diamer	Ø82.5 mm [3.25 in]							
Bolt circle diameter	Ø106.4 mm [4.20 in]							
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code
Cyl. Ø25 mm	G 1/2	Side port	G1/4	Yes	-	Yes	OMR N	E1

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
E1	151-6380	151-6381	-	151-6383	151-6384	151-6385	151-6386	151-6387	151-6388

OMRW motors with needle bearings
Mounting flange: Wheel

Spigot diamer	Ø82.5 mm [3.25 in]							
Bolt circle diameter	Ø147.6 mm [5.81 in]							
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code
Tap. Ø35 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMRW N	F1
Tap. Ø 1 1/4 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMRW N	F2

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
F1	151-6300	151-6301	151-6302	151-6303	151-6304	151-6305	151-6306	151-6307	151-6308
F2	151-6430	151-6431	151-6432	151-6433	151-6434	151-6435	151-6436	151-6437	151-6438

OMR motors with integrated brake
Mounting flange: 2 hole oval flange (A2)

Spigot diamer	Ø82.5 mm [3.25 in]							
Bolt circle diameter	Ø106.4 mm [4.20 in]							
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code
Cyl. Ø25 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMR F	G1

OMR versions and code numbers

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
G1	-	151-6461	151-6462	151-6463	151-6464	151-6465	151-6466	151-6467	151-6468

OMR motors with integrated brake and needle bearings

Mounting flange: 2 hole oval flange (A2)

Spigot diamer	Ø82.5 mm [3.25 in]								
Bolt circle diameter	Ø106.4 mm [4.20 in]								
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code	
Cyl. 1 in	7/8-14 UNF	Side port	7/16-20 UNF	Yes	-	Yes	OMR NF	H1	

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
H1	-	151-6471	151-6472	151-6473	151-6474	151-6475	151-6476	151-6477	151-6478

OMRW motors with integrated brake and needle bearings

Mounting flange: Wheel

Spigot diamer	Ø82.5 mm [3.25 in]								
Bolt circle diameter	Ø147.6 mm [5.81 in]								
Shaft	Main port size	Port style	Drain port size	Standard shaft seal	High pressure shaft seal	Check valve	Main type designation	Conf. code	
Tap. Ø35 mm	G 1/2	Side port	G 1/4	Yes	-	Yes	OMRW NF	J1	

Code numbers

Conf. code	Displacement								
	50	80	100	125	160	200	250	315	375
J1	-	-	151-6442	151-6443	151-6444	151-6445	-	-	-

Features available (options)

Low leakage (low speed valve) Reverse rotation

Speed sensor Painted

Viton shaft seal

OMR technical data
Technical data for OMR with 25 mm and 1 in cylindrical shaft

Type			OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	
Motor size			50	80	100	125	160	200	250	315	375	
Geometric displacement	cm ³		51.6	80.3	99.8	125.7	159.6	199.8	249.3	315.7	372.6	
	[inch]		[3.16]	[4.91]	[6.11]	[7.69]	[9.77]	[12.23]	[15.26]	[19.32]	[22.80]	
Max. speed	min ⁻¹	cont.	775	750	600	475	375	300	240	190	160	
	[rpm]	int. ¹⁾	970	940	750	600	470	375	300	240	200	
Max. torque	N•m [lbf•in]	cont.	100	195	240	300	300	300	300	300	300	300
			[890]	[1730]	[2120]	[2660]	[2660]	[2660]	[2660]	[2660]	[2660]	[2660]
		int. ¹⁾	130	220	280	340	390	390	380	420	430	
			[1150]	[1960]	[2480]	[3010]	[3450]	[3450]	[3360]	[3720]	[3810]	
Max. output	kW [hp]	cont.	7.0	12.5	13.0	12.5	10.0	8.0	6.0	5.0	4.0	
			[9.4]	[16.8]	[17.4]	[16.8]	[13.4]	[10.7]	[8.1]	[6.7]	[5.4]	
		int. ¹⁾	8.5	15.0	15.0	14.5	12.5	10.0	8.0	6.5	6.0	
			[11.4]	[20.1]	[20.1]	[19.4]	[16.8]	[13.4]	[10.7]	[8.7]	[8.1]	
Max. pressure drop	bar [psi]	cont.	140	175	175	175	130	110	80	70	55	
			[2030]	[2540]	[2540]	[2540]	[1890]	[1600]	[1160]	[1020]	[800]	
		int. ¹⁾	175	200	200	200	175	140	110	100	85	
			[2540]	[2900]	[2900]	[2900]	[2540]	[2030]	[1600]	[1450]	[1230]	
		peak ²⁾	225	225	225	225	225	225	200	150	130	
			[3260]	[3260]	[3260]	[3260]	[3260]	[3260]	[2900]	[2180]	[1890]	
Max. oil flow	l/min [US gal/min]	cont.	40	60	60	60	60	60	60	60	60	
			[10.6]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	
		int. ¹⁾	50	75	75	75	75	75	75	75	75	
			[13.2]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	
Max. starting pressure with unloaded shaft	bar		10	10	10	9	7	5	5	5	5	
	[psi]		[145]	[145]	[145]	[130]	[100]	[75]	[75]	[75]	[75]	
Min starting torque	at max. press drop cont. N•m [lbf•in]		80	150	200	250	240	260	240	260	240	
			[710]	[1330]	[1770]	[2210]	[2120]	[2300]	[2120]	[2300]	[2120]	
	at max. press.drop int. ¹⁾ N•m [lbf•in]		100	170	230	280	320	330	310	350	380	
			[890]	[1510]	[2040]	[2480]	[2830]	[2920]	[2740]	[3100]	[3360]	

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

Technical data for OMR with 1 in splined and 28.5 mm tapered shaft

Type			OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	
Motor size			50	80	100	125	160	200	250	315	375
Geometric displacement	cm ³		51.6	80.3	99.8	125.7	159.6	199.8	249.3	315.7	372.6
	[inch]		[3.16]	[4.91]	[6.11]	[7.69]	[9.77]	[12.23]	[15.26]	[19.32]	[22.80]
Max. speed	min ⁻¹	cont.	775	750	600	475	375	300	240	190	160
	[rpm]	int. ¹⁾	970	940	750	600	470	375	300	240	200
Max. torque	N•m [lbf•in]	cont.	100	195	240	300	360	360	360	360	360
			[890]	[1730]	[2120]	[2660]	[3190]	[3190]	[3190]	[3190]	[3190]
		int. ¹⁾	130	220	280	340	430	440	470	470	460
			[1150]	[1950]	[2480]	[3010]	[3810]	[3890]	[4160]	[4160]	[4070]

OMR technical data

Type			OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR
Motor size			50	80	100	125	160	200	250	315	375
Max. output	kW [hp]	cont.	7.0 [9.4]	12.5 [16.8]	13.0 [17.4]	12.5 [16.8]	12.5 [16.8]	10.0 [13.4]	7.0 [9.4]	5.0 [6.7]	5.0 [6.7]
		int. ¹⁾	8.5 [11.4]	15.0 [20.1]	15.0 [20.1]	14.5 [19.4]	14.0 [18.8]	13.0 [17.4]	9.5 [12.7]	8.0 [10.7]	7.0 [9.4]
	bar [psi]	cont.	140 [2030]	175 [2540]	175 [2540]	175 [2540]	165 [2390]	130 [1890]	100 [1450]	85 [1230]	70 [1020]
		int. ¹⁾	175 [2540]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	175 [2540]	140 [2030]	115 [1670]	90 [1310]
Max. pressure drop	l/min [US gal/min]	cont.	40 [10.6]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]	60 [15.9]
		int. ¹⁾	50 [13.2]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]	75 [19.8]
	bar [psi]	cont.	10 [145]	10 [145]	10 [145]	9 [130]	7 [100]	5 [75]	5 [75]	5 [75]	5 [75]
		int. ¹⁾	80 [710]	150 [1330]	200 [1770]	250 [2210]	300 [2660]	300 [2660]	290 [2570]	315 [2790]	300 [2660]
Min starting torque	N·m [lbf·in]	at max. press.drop cont.	80 [710]	150 [1330]	200 [1770]	250 [2210]	300 [2660]	300 [2660]	290 [2570]	315 [2790]	300 [2660]
		at max. press.drop int. ¹⁾	100 [890]	170 [1510]	230 [2040]	280 [2480]	350 [3100]	400 [3540]	400 [3540]	400 [3540]	380 [3360]

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

Technical data for OMR with 32 mm, 1 ¼ in cylindrical shaft and 35 mm, 1 ¼ in tapered shaft

Type			OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR
Motor size			50	80	100	125	160	200	250	315	375
Geometric displacement	cm ³		51.6	80.3	99.8	125.7	159.6	199.8	249.3	315.7	372.6
	[inch]		[3.16]	[4.91]	[6.11]	[7.69]	[9.77]	[12.23]	[15.26]	[19.32]	[22.80]
Max. speed	min ⁻¹	cont.	775	750	600	475	375	300	240	190	160
	[rpm]	int. ¹⁾	970	940	750	600	470	375	300	240	200
Max. torque	N·m [lbf·in]	cont.	100 [890]	195 [1730]	240 [2120]	300 [2660]	380 [3360]	450 [3980]	540 [4780]	550 [4870]	580 [5130]
		int. ¹⁾	130 [1150]	220 [1957]	280 [2480]	340 [3010]	430 [3810]	500 [4430]	610 [5400]	690 [6110]	690 [6110]
	kW [hp]	cont.	7.0 [9.4]	12.5 [16.8]	13.0 [17.4]	12.5 [16.8]	12.5 [16.8]	11.0 [14.8]	10.0 [13.4]	9.0 [12.1]	7.5 [10.1]
		int. ¹⁾	8.5 [11.4]	15.0 [20.1]	15.0 [20.1]	14.5 [19.4]	14.0 [18.8]	13.0 [17.4]	12.0 [16.1]	10.0 [13.4]	9.0 [12.1]
Max. pressure drop	bar [psi]	cont.	140 [2030]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	175 [2540]	135 [1960]	115 [1670]
		int. ¹⁾	175 [2540]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	200 [2900]	175 [2540]	150 [2180]
	peak ²⁾	cont.	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	210 [3050]	175 [2540]
		int. ¹⁾	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	225 [3260]	210 [3050]	175 [2540]

OMR technical data

Type			OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR	OMR
Motor size			50	80	100	125	160	200	250	315	375
Max. oil flow	l/min [US gal/min]	cont.	40	60	60	60	60	60	60	60	60
		int. ¹⁾	[10.6]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]	[15.9]
Max. starting pressure with unloaded shaft	bar [psi]	cont.	50	75	75	75	75	75	75	75	75
		int. ¹⁾	[13.2]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]	[19.8]
Min starting torque	at max. press drop cont. N•m [lbf•in]	cont.	10	10	10	9	7	5	5	5	5
		int. ¹⁾	[145]	[145]	[145]	[130]	[100]	[75]	[75]	[75]	[75]
at max. press.drop int. ¹⁾ N•m [lbf•in]	at max. press.drop int. ¹⁾ N•m [lbf•in]	cont.	80	150	200	250	320	410	500	500	470
		int. ¹⁾	[710]	[1330]	[1770]	[2210]	[2830]	[3630]	[4430]	[4430]	[4170]
at max. press.drop int. ¹⁾ N•m [lbf•in]	at max. press.drop int. ¹⁾ N•m [lbf•in]	cont.	100	170	230	280	370	460	550	660	570
		int. ¹⁾	[890]	[1510]	[2040]	[2480]	[3280]	[4070]	[4870]	[5840]	[5050]

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

Type			Max. inlet pressure	Max.return pressure with drain line
OMR 50 - 375	bar [psi]	cont	175 [2540]	175 [2540]
	bar [psi]	int. ¹⁾	200 [2900]	200 [2900]
	bar [psi]	peak ²⁾	225[3260]	225 [3260]

¹⁾ Intermittent operation: the permissible values may occur for max. 10% of every minute.

²⁾ Peak load: the permissible values may occur for max. 1% of every minute.

Technical data for parking brake motor OMR F, OMR NF and OMRW NF

Technical data for brake motor		
Holding torque ¹⁾	N•m [lbf•in]	400 [3540]
Min. release pressure ²⁾	bar [psi]	21 [305]
Max. pressure in brake line	bar [psi]	200 [2900]

¹⁾ This brake is to be used only as a passive parking brake. It may not be used for dynamic braking.

²⁾ Brake motors must always have a drain line. The brake release pressure is the difference between the pressure in the brake release line and the pressure in the drain line.

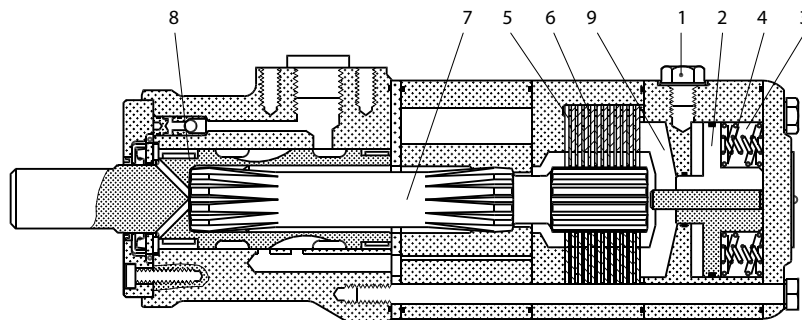
OMR F function

In normal condition where there is no pressure on the integrated brake in OMR, i.e. the brake is applied. The brake is released when hydraulic pressure of 21 bar [300 psi] min. is applied to the brake release port (1).

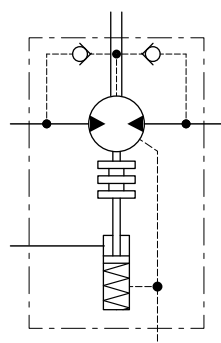
The pressure forces the piston (2) against the springs (3 and 4) disengaging the outer and inner discs (5 and 6) from each other so that the cardan shaft (7) and consequently output shaft (8) become free to rotate.

If the pressure on the brake release port is reduced to less than 21 bar [300 psi], the springs force the piston and pressure pad (9) against the brake discs and the cardan shaft/output shaft begin to lock up.

OMR technical data



151-1739.10.10



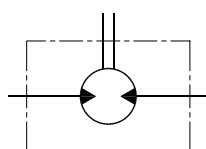
151-1726.10

Maximum permissible shaft seal pressure

OMR with High Pressure Shaft seal (HPS)

OMR with HPS, without check valves and without drain connection:

The shaft seal pressure equals the average of input pressure and return pressure



151-1743.10

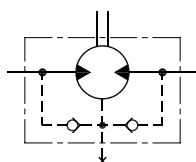
$$P_{\text{seal}} = \frac{P_{\text{in}} + P_{\text{return}}}{2}$$

OMR with HPS, check valves and with drain connection:

The shaft seal pressure equals the pressure in the drain line.

OMR with HPS, check valves and without drain connection:

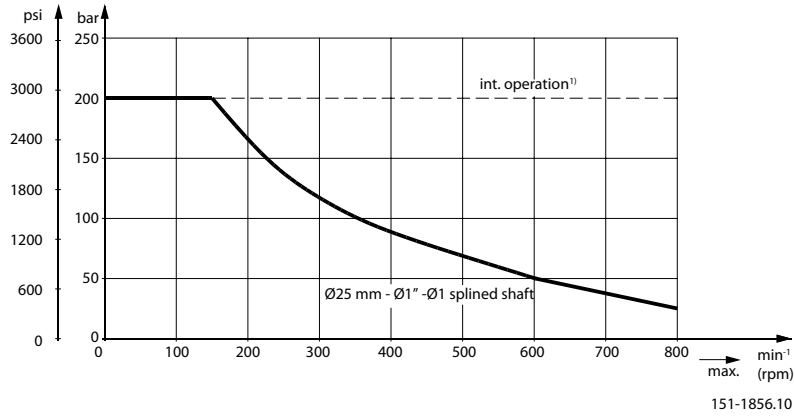
The pressure on the shaft seal never exceeds the pressure in the return line.



151-320.10

OMR technical data

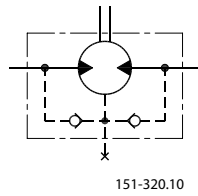
Max. permissible shaft seal pressure



OMR with Standard Shaft seal

OMR with standard shaft seal, check valves and without use of drain connection:

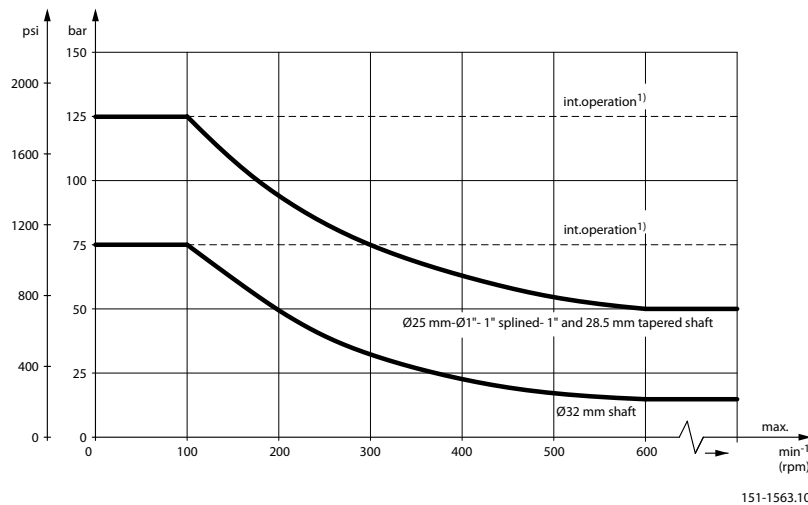
The pressure on the shaft seal never exceeds the pressure in the return line



OMR with standard shaft seal, check valves and with drain connection:

The shaft seal pressure equals the pressure on the drain line.

Max. return pressure without drain line or max. pressure in the drain line

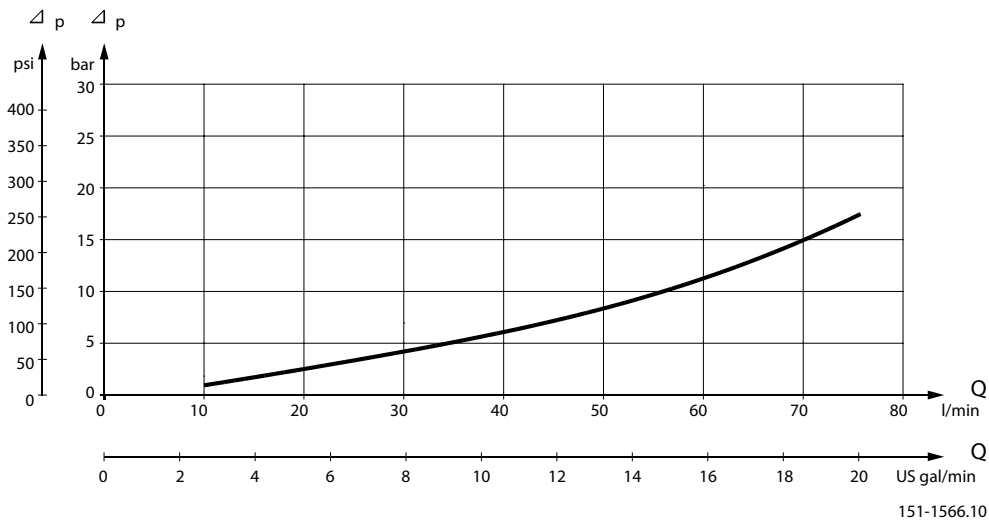


1) Intermittent operation: the permissible values may occur for max. 10% of every minute.

OMR technical data

Pressure drop in OMR motor

The curve applies to an unloaded motor shaft and an oil viscosity of 35 mm²/s [165 SUS]

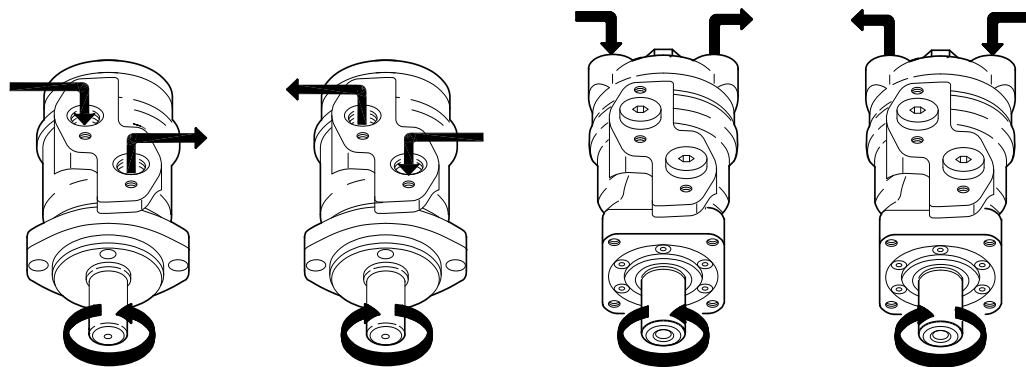


Oil flow in drain line

The table shows the maximum oil flow in the drain line at a return pressure less than 5-10 bar [75-150 psi].

Pressure drop		Viscosity		Oil flow in drain line	
bar	[psi]	mm ² /s	[SUS]	l/min	[US gal/min]
100	[1450]	20	[100]	2.5	[0.66]
		35	[165]	1.8	[0.78]
140	[2030]	20	[100]	3.5	[0.93]
		35	[165]	2.8	[0.74]

Direction of shaft rotation



151-1836.10

Permissible shaft loads

OMR technical data

OMP and OMR

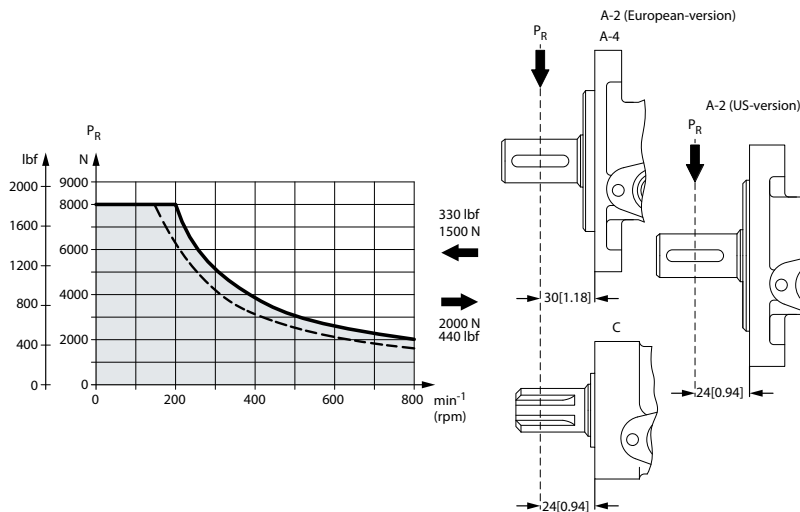
The permissible radial shaft load (P_R) depends on:

- Speed (n)
- Distance (L) from the point of load to the mounting flange
- Mounting flange version
- Shaft version

Mounting flange	4-oval flange** 2-hole oval flange (European version)	4-hole oval flange	Square flange** 2-hole oval flange (US-version)
Shaft version	25 mm cylindrical shaft 1 in cylindrical shaft 1 in splined shaft	32 mm cylindrical shaft	25 mm cylindrical shaft
Permissible shaft load (P_R) - l in mm	$\frac{800}{n} \cdot \frac{250000 \text{ N}^*}{95 + L}$	$\frac{800}{n} \cdot \frac{187500 \text{ N}^*}{95 + L}$	$\frac{800}{n} \cdot \frac{250000 \text{ N}^*}{101 + L}$
Permissible shaft load (P_R) - l in inch	$\frac{800}{n} \cdot \frac{2215 \text{ lbf}^*}{3.74 + L}$	$\frac{800}{n} \cdot \frac{1660 \text{ lbf}^*}{3.74 + L}$	$\frac{800}{n} \cdot \frac{2215 \text{ lbf}^*}{3.98 + L}$

** For both European and US-version

* $n \geq 200 \text{ min}^{-1}$ [rpm]; $\leq 55 \text{ mm}$ [2.2 in]. $n < 200 \text{ min}^{-1}$ [rpm]; $\Rightarrow P_{Rmax} = 8000 \text{ N}$ [1800 lbf]



151-1203.10

- cylindrical shaft 32 mm [1.26 in]
- _____ other shaft versions

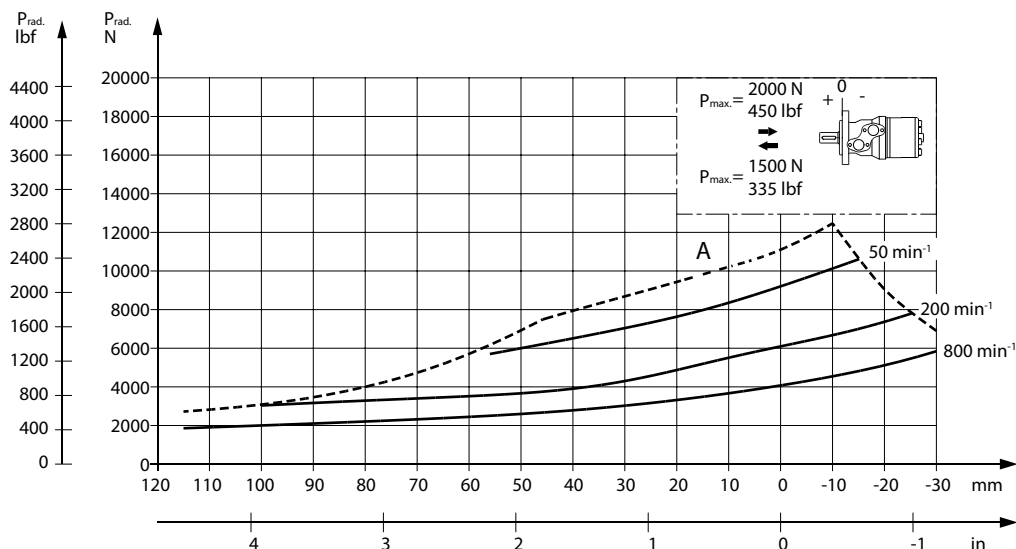
The curve shows the relation between P_R and n

- when $l = 30 \text{ mm}$ [1.18 in] for motors with A2 (European version) and A4 oval mounting flange
- when $l = 24 \text{ mm}$ [0.94 in] for motors with square mounting flange and A2 (US version)

For applications with special performance requirements we recommend OMP and OMR with the output shaft running in needle bearings.

OMR technical data

OMR N and OMR NF with Needle Bearings



151-2112.10

The output shaft on OMR N and OMR NF runs in needle bearings. These bearings and the recessed mounting flange allow a higher permissible radial load in comparison to OMR motors with slide bearings.

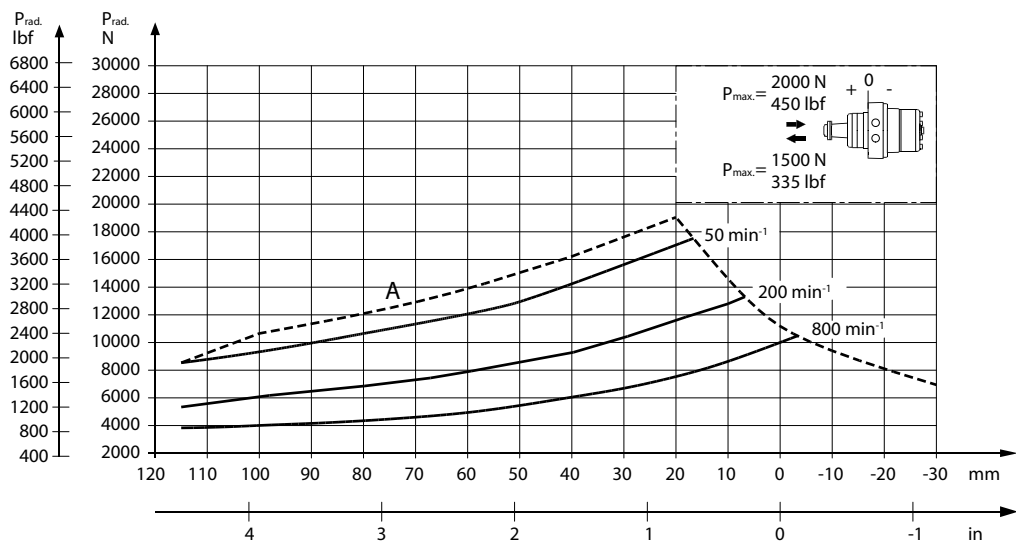
The permissible radial load on the shaft is shown for different speeds as a function of the distance from the mounting flange to the point of load application.

Curve A shows max. radial shaft load. Any shaft load exceeding the values quoted in the curve will involve a risk of breakage.

The other curves apply to a B10 bearing life of 2000 hours at the number of revolutions indicated by the curve letter. Mineral based hydraulic oil with a sufficient content of anti-wear additives must be used.

Bearing life calculations can be made using the explanation and formula provided in the chapter »Bearing dimensioning« in the technical information *Orbital Motors General 520L0232*.

OMRW N and OMRW NF with Needle Bearings



151-2113.10

OMR technical data

The output shaft on OMRW N runs in needle bearings. These bearings and the recessed mounting flange allow a higher permissible radial load in comparison to OMR motors with slide bearings.

The permissible radial load on the shaft is shown for different speeds as a function of the distance from the mounting flange to the point of load application.

Curve A shows max. radial shaft load. Any shaft load exceeding the values quoted in the curve will involve a risk of breakage.

The other curves apply to a B10 bearing life of 2000 hours at the number of revolutions indicated by the curve letter. Mineral based hydraulic oil with a sufficient content of anti-wear additives must be used.

Bearing life calculations can be made using the explanation and formula provided in the chapter »Bearing dimensioning« in the technical information *Orbital Motors General 520L0232*.

OMR function diagrams

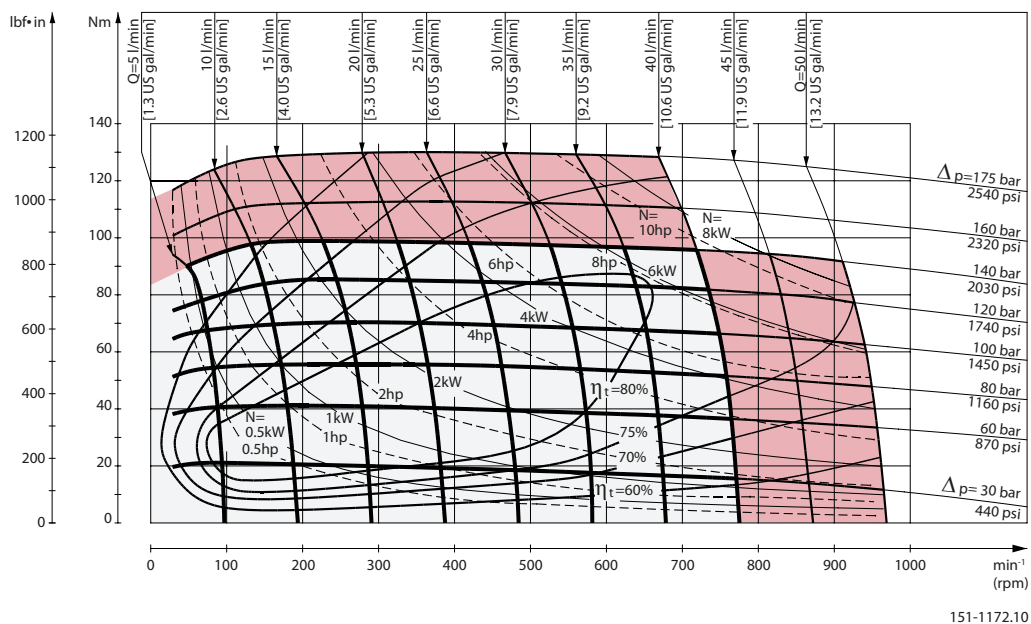
Explanation of function diagram use, basis and conditions can be found in [Speed, torque and output](#) on page 8.

- Continuous range
- Intermittent range (max. 10% operation every minute)

Max. permissible continuous/intermittent pressure drop for the actual shaft version can be found in [OMR technical data](#) on page 46.

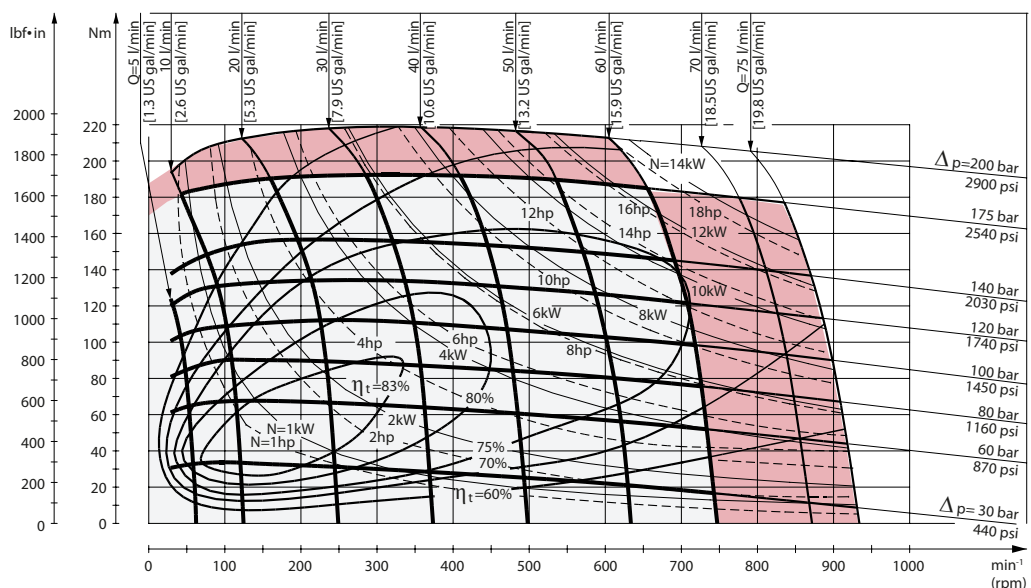
Intermittent pressure drop and oil flow must not occur simultaneously.

OMR 50 function diagram



151-1172.10

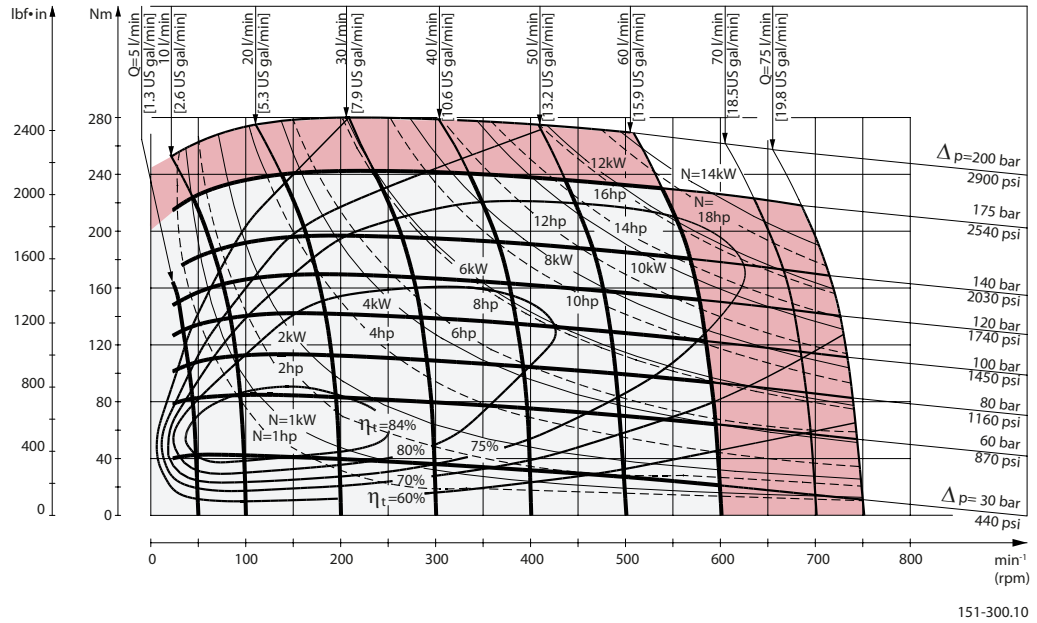
OMR 80 function diagram



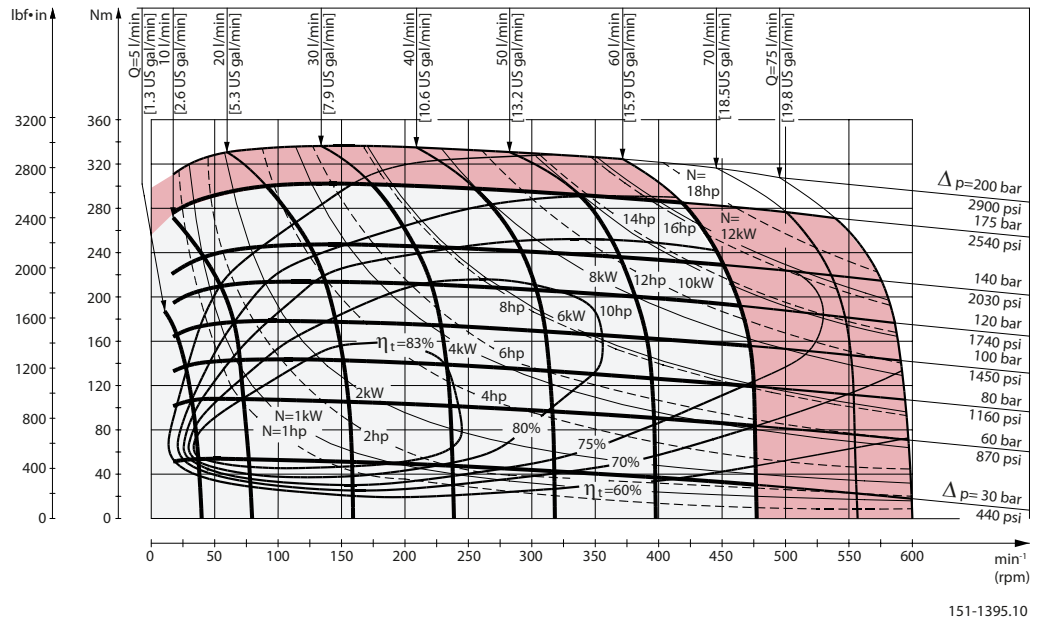
151-299.10

OMR function diagrams

OMR 100 function diagram

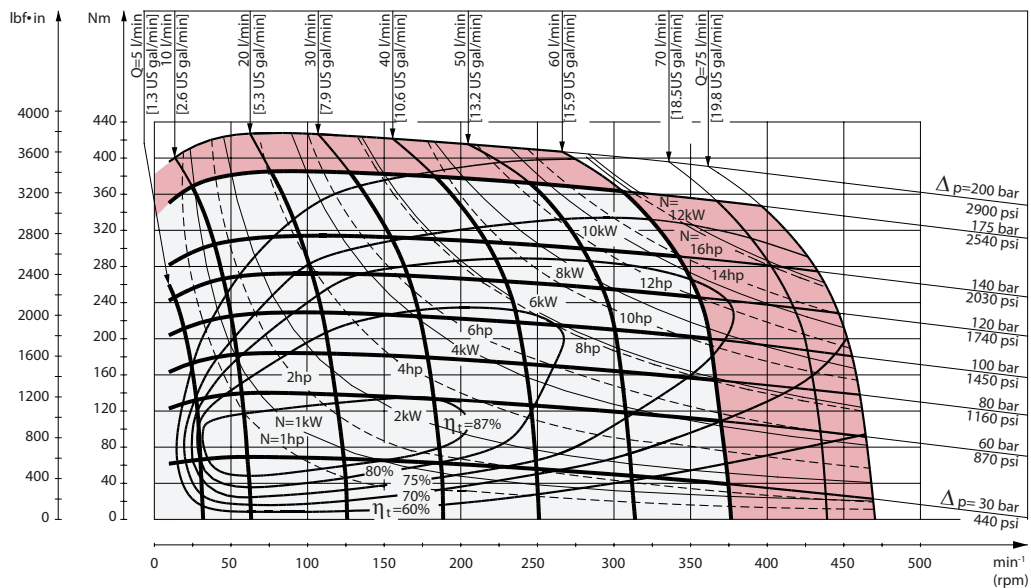


OMR 125 function diagram



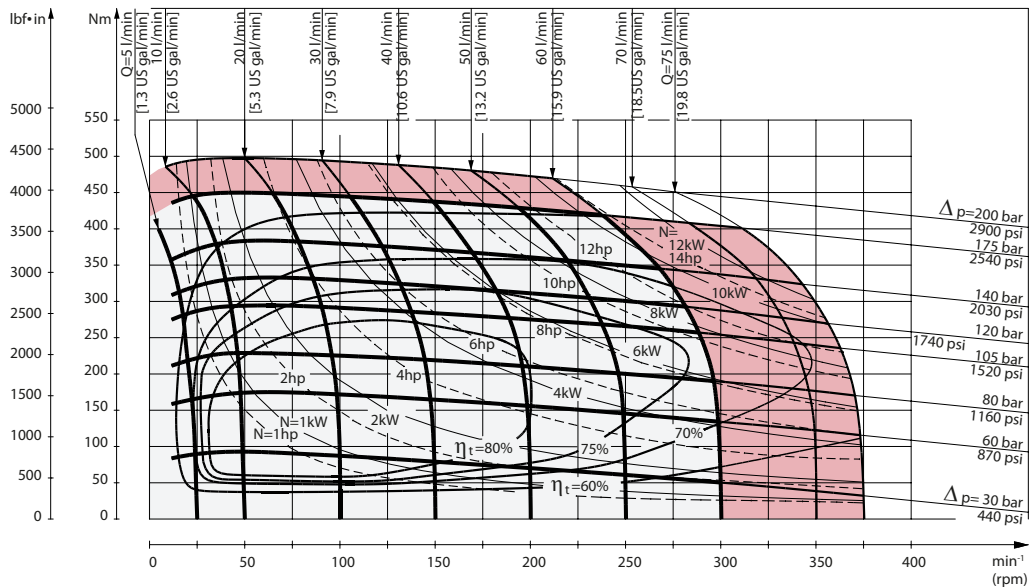
OMR function diagrams

OMR 160 function diagram



151-1044.10

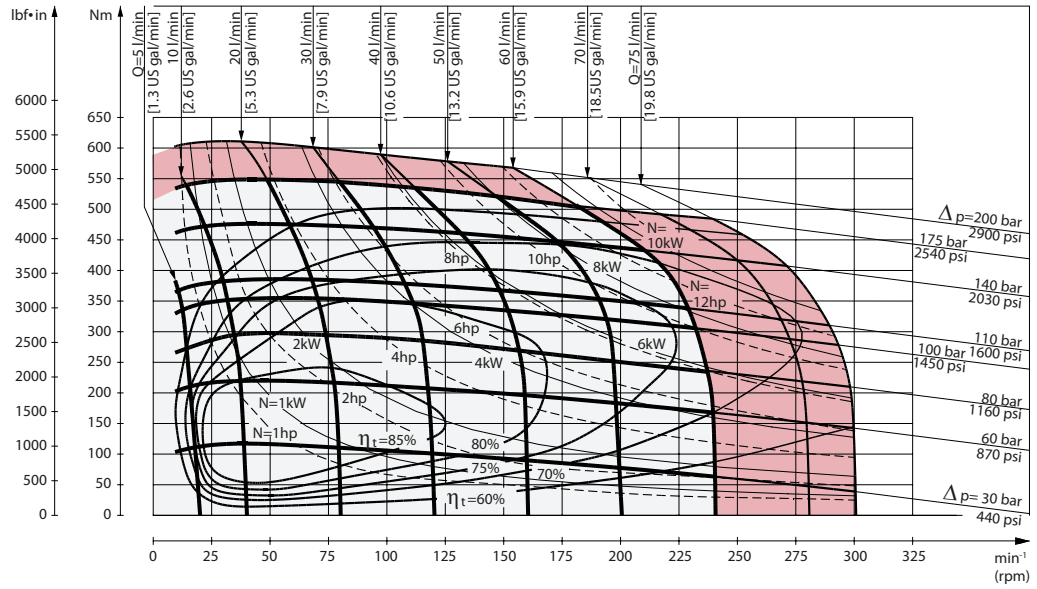
OMR 200 function diagram



151-1396.10

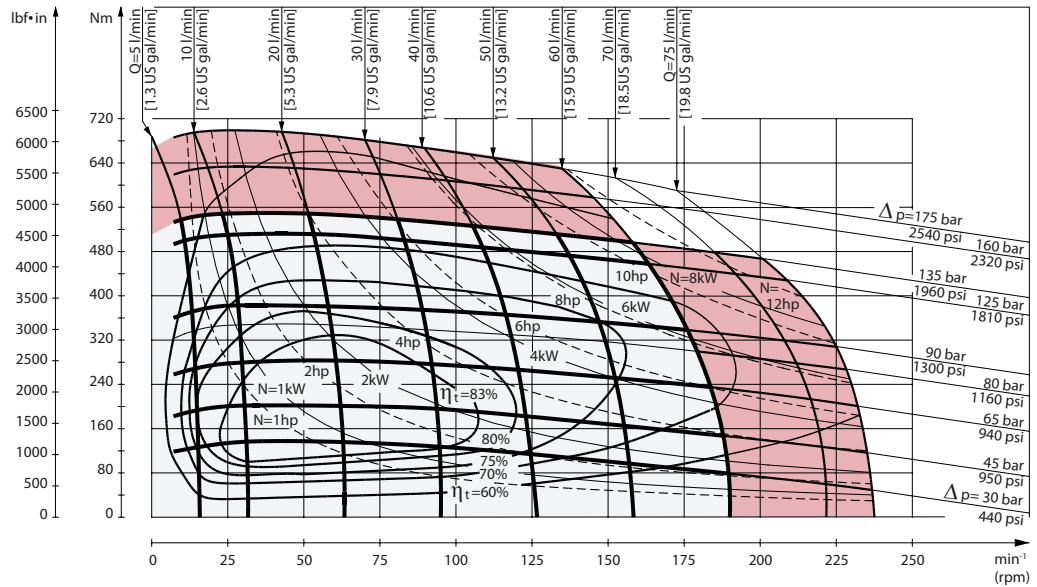
OMR function diagrams

OMR 250 function diagram



151-1119.10

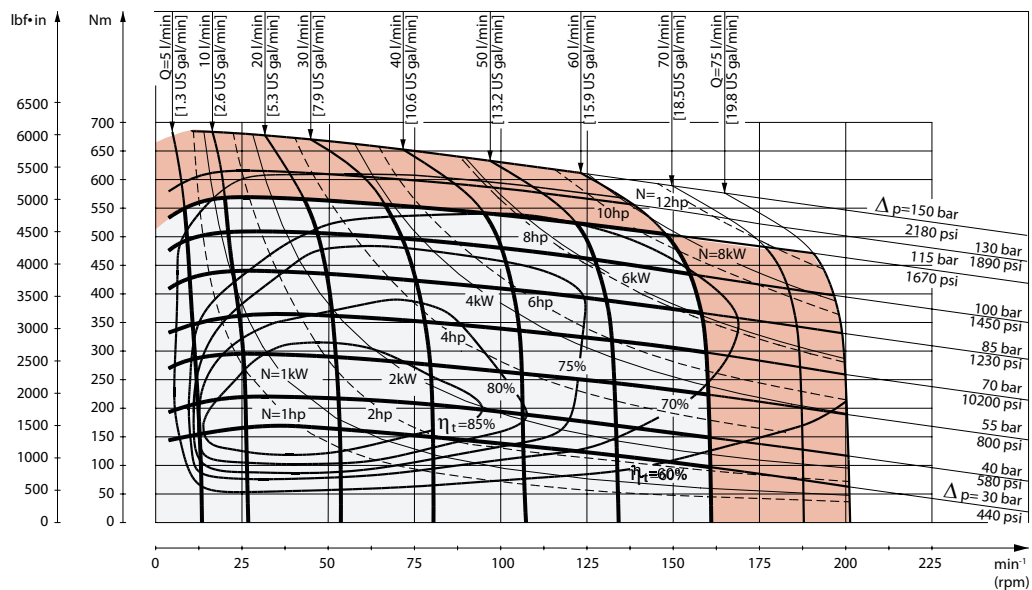
OMR 315 function diagram



151-809.10

OMR function diagrams

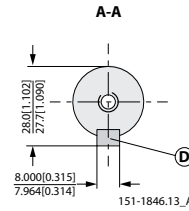
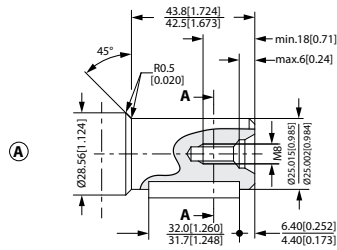
OMR 375 function diagram



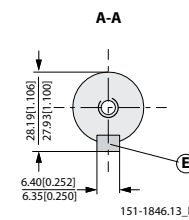
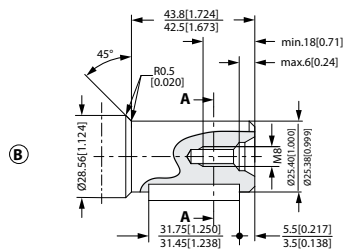
151-1385.11

Shaft version

OMR shaft version

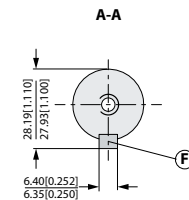
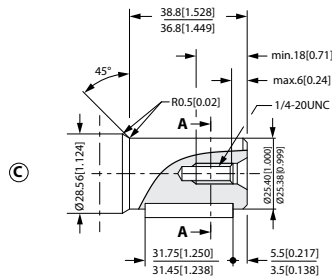


- A:** Cylindrical shaft 25 mm
- D:** Parallel key A8 • 7 • 32 DIN 6885



- B:** Cylindrical shaft 1 in
- E:** Parallel key ¼ • ¼ • 1 ¼ in B.S. 46

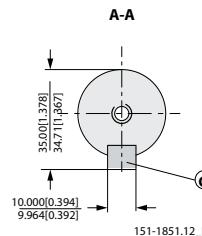
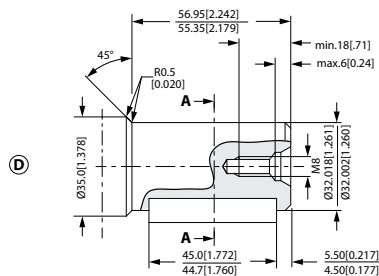
US version



- C:** Cylindrical shaft 1 in
- F:** Parallel key ¼ • ¼ • 1 ¼ in B.S. 46



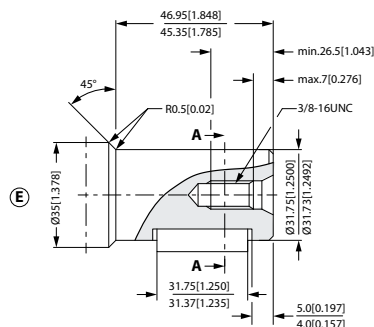
151-1846.13_C



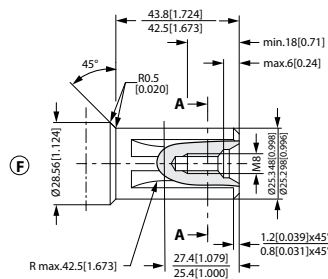
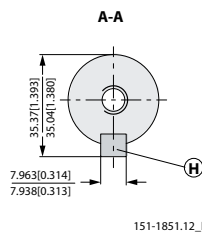
- D:** Cylindrical shaft 32 mm
- G:** Parallel key A10 • 8 • 45 DIN 6885

Shaft version

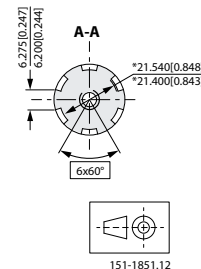
US version



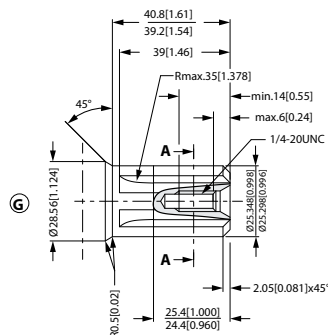
- E:** Cylindrical shaft 1 ¼ in
- H:** Parallel key 5/16 5/16 1 ¼ in B.S. 46



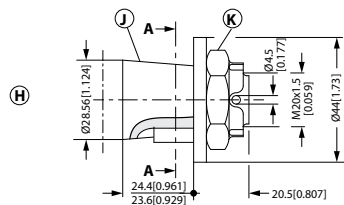
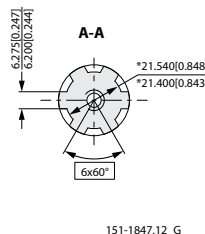
- F:** Involute splined shaft B.S. 2059 (SAE 6 B) Straight-sided, bottom fitting, deep. Fit 2 Nom. size 1 in *Deviates from B.S. 2059 (SAE 6 B)



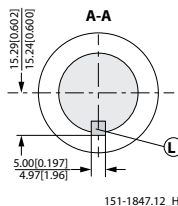
US version



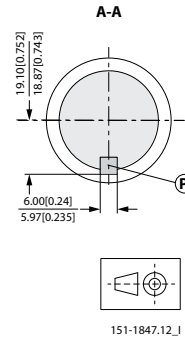
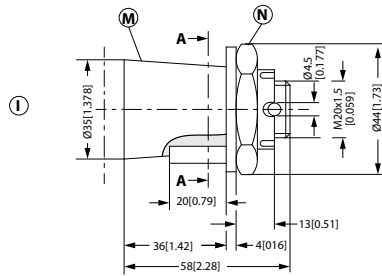
- G:** Splined shaft SAE 6 B (B.S. 2059) Straight-sided, bottom fitting, deep. Fit 2; Nom. size 1 in *Deviates from SAE 6 B (B.S. 2059)



- H:** Tapered shaft 28.5 mm (ISO/R775)
- K:** DIN 937 NV 30 Tightening torque: 100 ± 10 N·m [885 ± 85 lbf·in]
- J:** Taper 1:10
- L:** Parallel key B5 • 5 • 14 DIN 6885

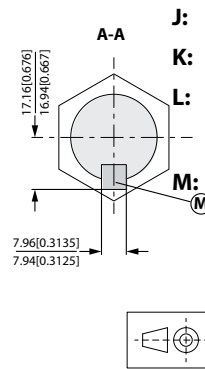
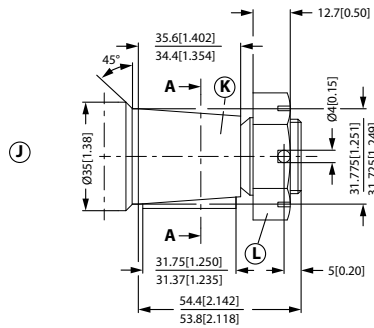


Shaft version



- I:** Tapered shaft 35 mm
- N:** DIN 937 NV 41 Tightening torque: $200 \pm 10 \text{ N}\cdot\text{m}$ [$1770 \pm 85 \text{ lbf}\cdot\text{in}$]
- M:** Taper 1:10
- P:** Parallel key B6 • 6 • 20 DIN 6885

151-1847.12_J

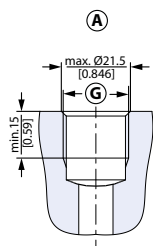


- J:** Tapered shaft 1 1/4 in
- K:** Cone 1:8 SAE J501
- L:** 1 - 20 UNEF Across flats 1 7/16
Tightening torque: $200 \pm 10 \text{ N}\cdot\text{m}$ [$1770 \pm 85 \text{ lbf}\cdot\text{in}$]
- M:** Parallel key 5/16 • 5/16 • 1 1/4 SAE J501

151-1848.12

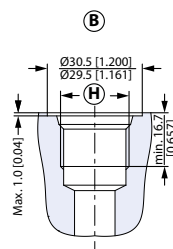
OMR port thread versions

Port thread versions



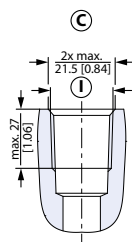
151-1844.11_A

- A:** G main ports
- G:** ISO 228/1 - G1/2



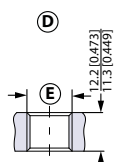
151-1844.11_B

- B:** UNF main ports
- H:** 7/8 - 14 UNF O-ring boss port



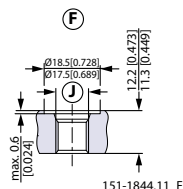
151-1844.11_C

- C:** NPTF main ports
- I:** 1/2 - 14 NPTF



151-1844.11_D

- D:** G drain port
- E:** ISO 228/1 - G1/4



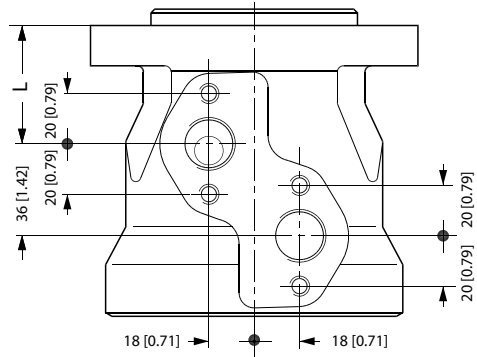
151-1844.11_F

- F:** UNF drain port
- J:** 7/16 - 20 UNF O-ring boss port

OMR port thread versions

OMR manifold mount

European version



151-2135.10

L: see dimensional drawing for given OMR motor: [OMR dimensions](#) on page 65 and [Dimension-US Version](#)

L: see dimensional drawing for given OMP motor:

[OMR dimensions - European version](#) on page 65

[OMR dimensions - US version](#) on page 74

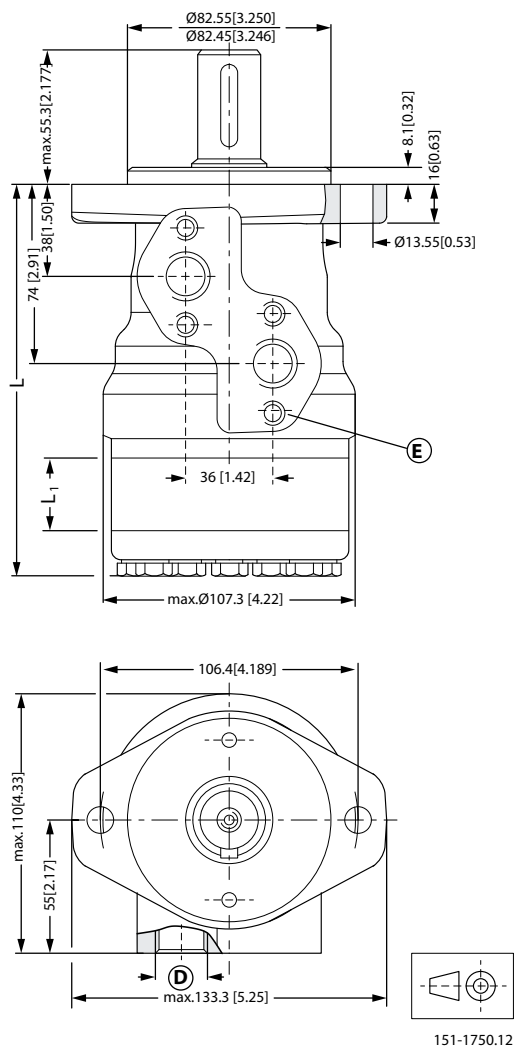
OMR dimensions

OMR dimensions - European version

OMR Side port version with 2-hole oval mounting flange (A2 flange)

- With high pressure shaft seal

Side port - European version



D: G ½; 15 mm [0.59 in] deep

E: M8; 13 mm [0.51 in] deep (4 pcs.)

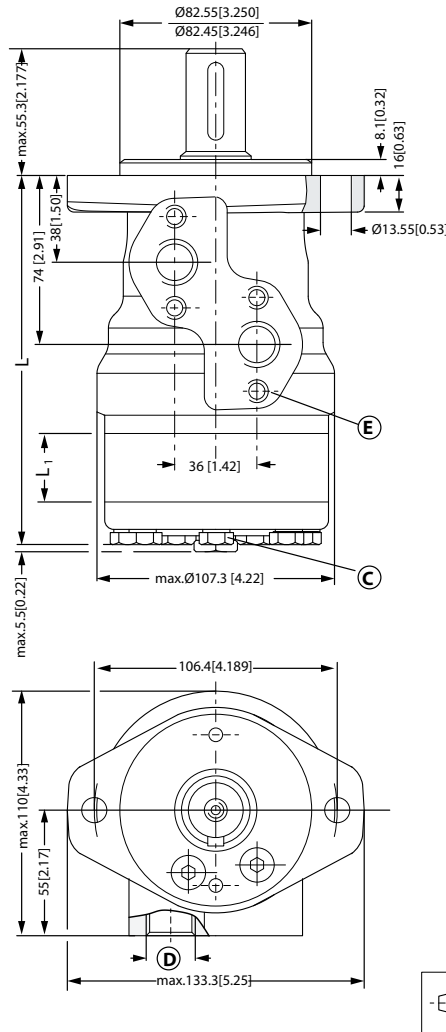
Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{Max}	mm	137.8	142.8	146.2	150.6	156.6	163.6	172.3	183.6	193.8
	[in]	[5.43]	[5.62]	[5.76]	[5.93]	[6.17]	[6.44]	[6.78]	[7.23]	[7.63]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR Side port version with 2-hole oval mounting flange (A2 flange)

- With check valves and drain connection
- With high pressure shaft seal

Side port - European version



151-1845.12

C: Drain connection G ¼; 15 mm [0.47 in] deep

D: G ½; 15 mm [0.59 in] deep

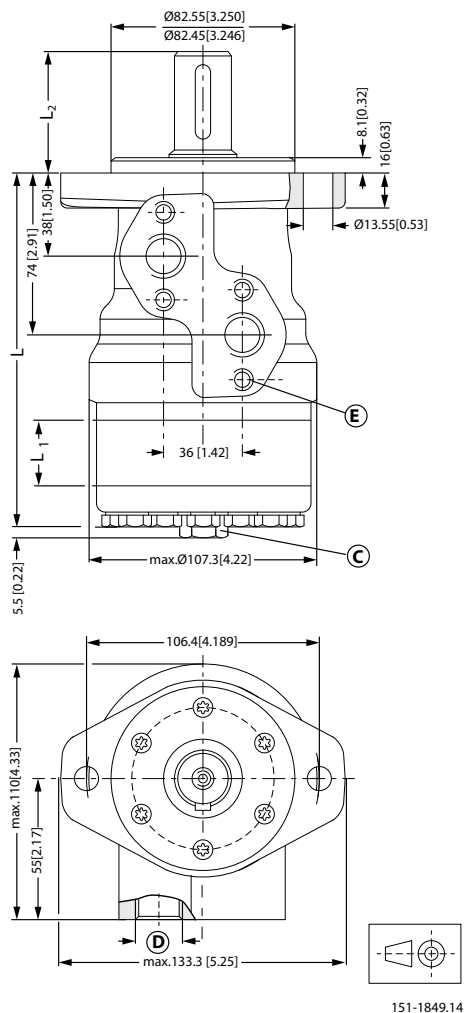
E: M8; 13 mm [0.51 in] deep (4 pcs.)

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{MAX}	mm	137.8	142.8	146.2	150.6	156.6	163.6	172.3	183.6	193.8
	[in]	[5.43]	[5.62]	[5.76]	[5.93]	[6.17]	[6.44]	[6.78]	[7.23]	[7.63]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR, OMR C and OMR N Side port version with 2-hole oval mounting flange (A2 flange)

Side port - European version



- C:** Drain connection G ¼; 12 mm [0.47 in] deep
- D:** G ½; 15 mm [0.59 in] deep
- E:** M8; 13 mm [0.51 in] deep (4 pcs.)

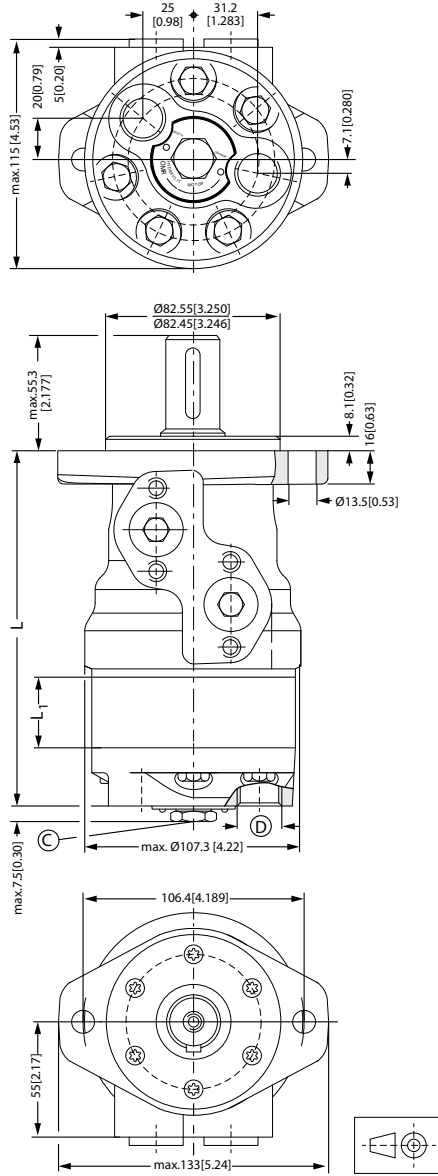
Output shaft. max.		Cylindrical shaft 32 mm [1.26 in]	Cylindrical shaft 25 mm [0.98 in]	Tapered shaft 28.56 mm [1.12 in]
L ₂ max	mm	68.3	55.3	56.65
	[in]	[2.69]	[2.18]	[2.23]

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{max}	mm	137.8	142.8	146.2	150.6	156.6	163.6	172.3	183.6	193.8
	[in]	[5.43]	[5.62]	[5.76]	[5.93]	[6.17]	[6.44]	[6.78]	[7.23]	[7.63]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR End port version with 2-hole oval mounting flange (A2-flange)

End port - European version



151-1752.12

C: G ¼; 12 mm [0.47 in] deep

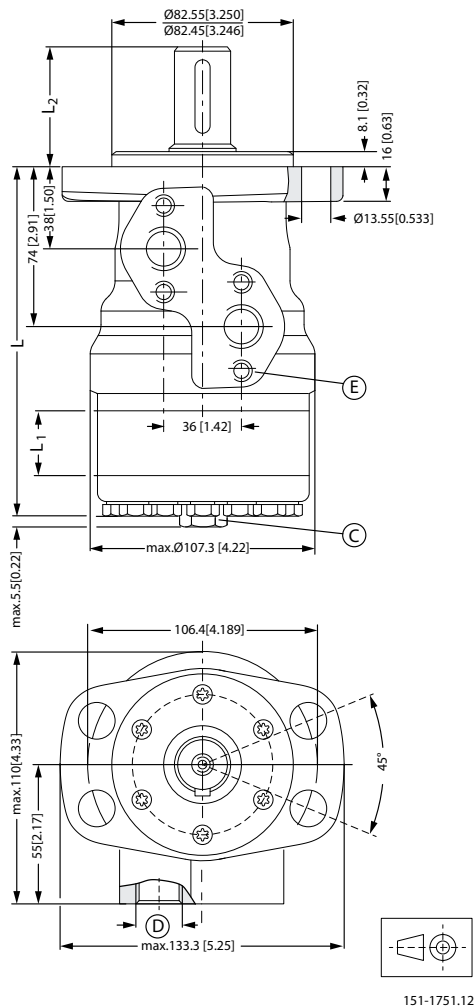
D: G ½; 15 mm [0.59 in] deep

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{Max}	mm	152.2	157.2	160.6	165.0	171.0	178.0	186.7	198.0	208.2
	[in]	[5.99]	[6.19]	[6.32]	[6.50]	[6.73]	[7.01]	[7.35]	[7.80]	[8.20]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR Side port version with 4-hole oval mounting flange (A4 flange)

Side port - European version



- C:** Drain connection G ¼; 15 mm [0.47 in] deep
- D:** G ½; 15 mm [0.59 in] deep
- E:** M8; 13 mm [0.51 in] deep (4 pcs.)

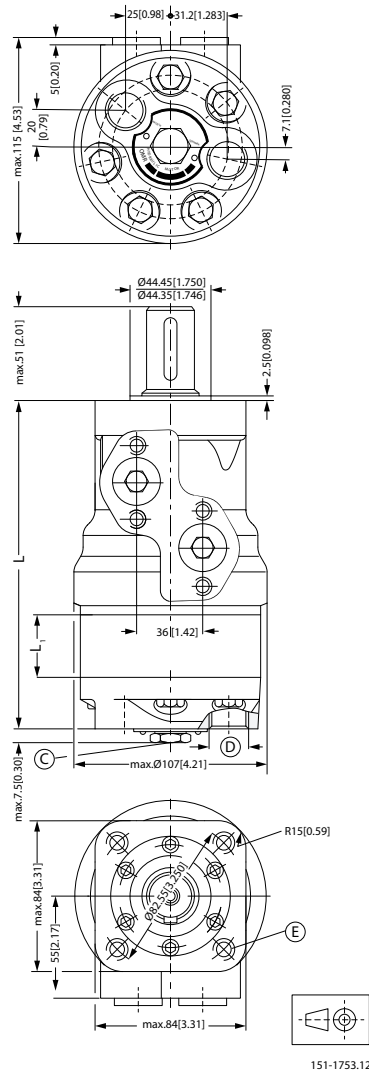
Output shaft.max.		Cylindrical shaft 32 mm [1.26 in]	Cylindrical shaft 25 mm [0.98 in]	Tapered shaft 28.56 mm [1.12 in]
L2	mm	68.3	55.3	56.3
	[in]	[2.69]	[2.18]	[2.22]

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{Max}	mm	137.8	142.8	146.2	150.6	156.6	163.6	172.3	183.6	193.8
	[in]	[5.43]	[5.62]	[5.76]	[5.93]	[6.17]	[6.44]	[6.78]	[7.23]	[7.63]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR End port version with square mounting flange (C-flange)

End port - European version



C: Drain connection G ¼; 12 mm [0.47 in] deep

D: G ½; 15 mm [0.59 in] deep

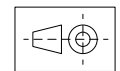
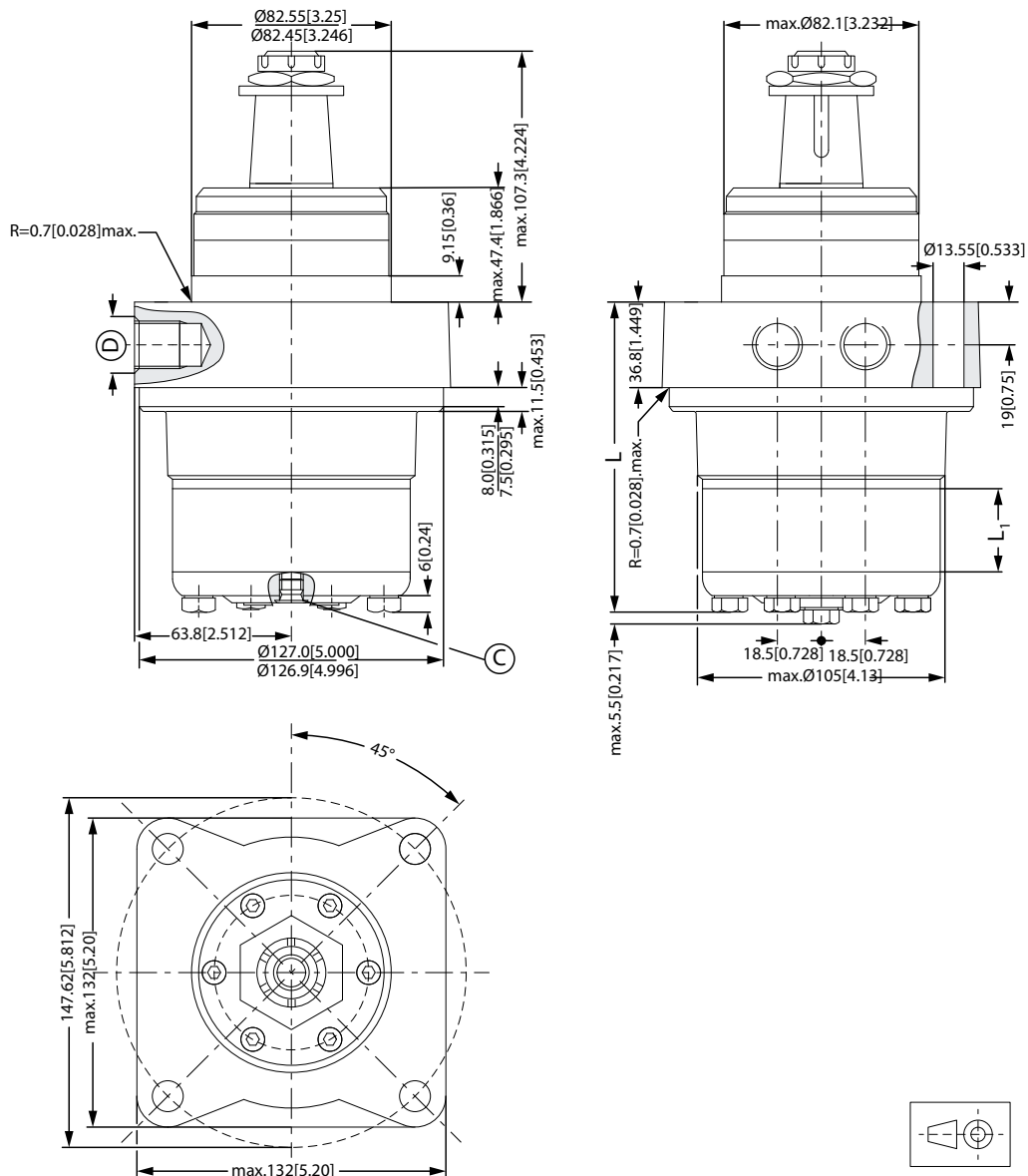
E: M10; 15 mm [0.59 in] deep (4 pcs.)

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{Max.}	mm	158.6	163.3	167.0	171.0	177.0	184.0	192.7	204.0	214.2
	[in]	[6.24]	[6.44]	[6.57]	[6.73]	[6.97]	[7.24]	[7.24]	[8.03]	[8.43]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMRW N wheel motor

Wheel motor - European version



151-1386.11

C: Drain connection G ¼; 12 mm [0.47 in] deep

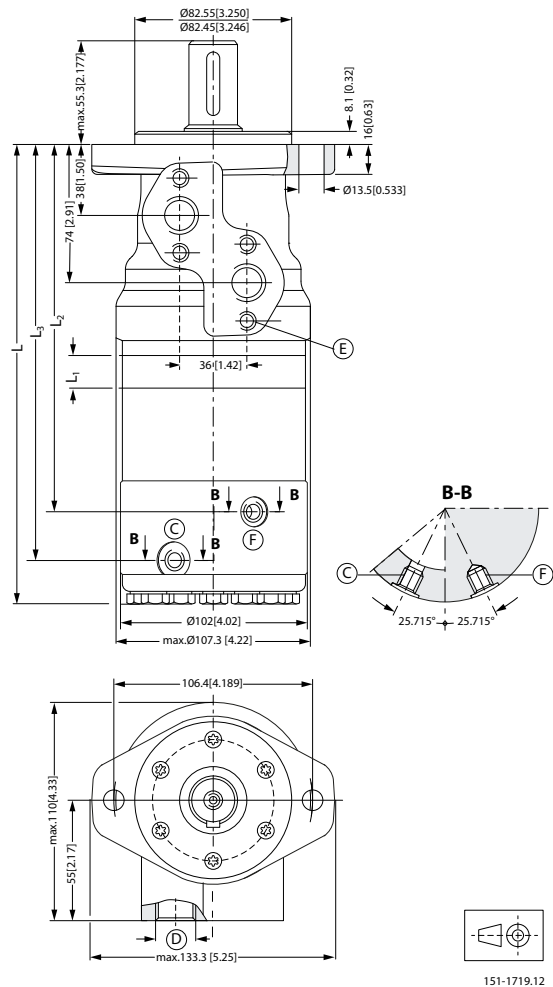
D: G ½; 15 mm [0.59 in] deep

Type		OMRW 50 N	OMRW 80 N	OMRW 100 N	OMRW 125 N	OMRW 160 N	OMRW 200 N	OMRW 250 N	OMRW 315 N	OMRW 375 N
L _{Max.}	mm	113.7	114.7	118.1	122.5	128.5	135.1	144.2	155.5	165.7
	[in]	[4.48]	[4.52]	[4.65]	[4.82]	[5.06]	[5.33]	[5.68]	[6.12]	[6.52]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR F motor

F motor - European version



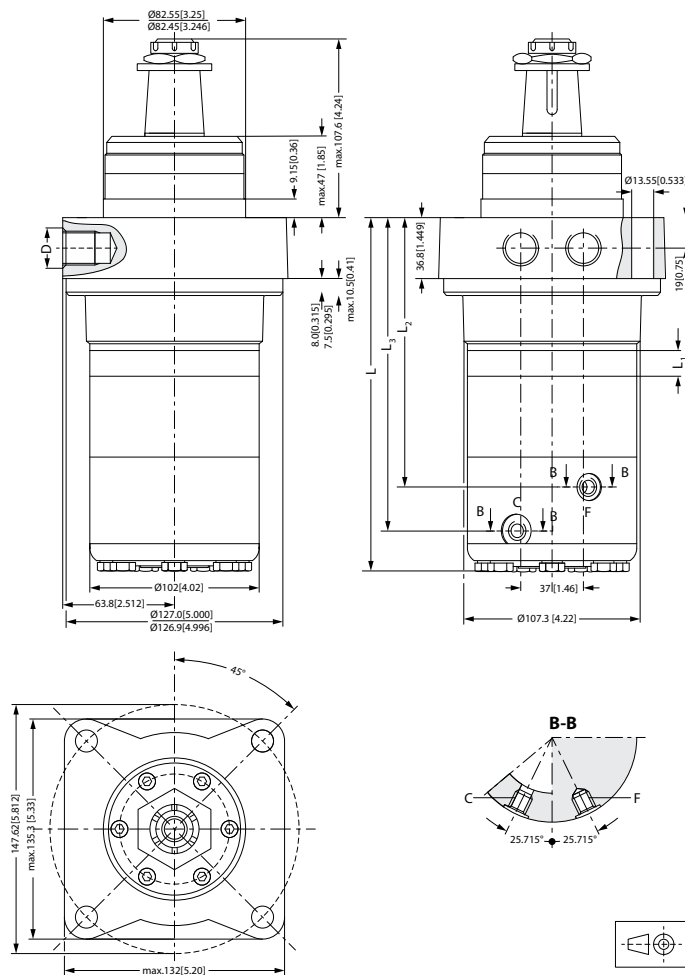
- C:** Drain connection G ¼; 12 mm [0.47 in] deep
- D:** G ½; 15 mm [0.59 in] deep
- E:** M8; 13 mm [0.51 in] deep
- F:** Brake release connection G ¼

Type		OMR 80 F	OMR 100 F	OMR 125 F	OMR 160 F	OMR 200 F	OMR 250 F	OMR 315 F	OMR 375 F
L _{max}	mm	242.7	246.1	250.5	265.1	263.5	272.2	283.5	293.7
	[in]	[9.56]	[9.69]	[9.86]	[10.10]	[10.37]	[10.72]	[11.16]	[11.56]
L ₁	mm	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]
L ₂	mm	186.8	190.2	194.6	200.6	207.6	216.3	227.6	237.7
	[in]	[7.35]	[7.49]	[7.66]	[7.90]	[8.17]	[8.51]	[8.96]	[9.36]
L ₃	mm	210.3	213.7	218.1	224.1	231.1	239.8	251.1	261.2
	[in]	[8.28]	[8.41]	[8.58]	[8.82]	[9.10]	[9.45]	[9.88]	[10.28]

OMR dimensions

OMRW NF motor

NF motor - European version



- C:** Drain connection G ¼; 12 mm [0.47 in] deep
- D:** G ½; 15 mm [0.59 in] deep
- E:** M8; 13 mm [0.51 in] deep
- F:** Brake release connection G ¼

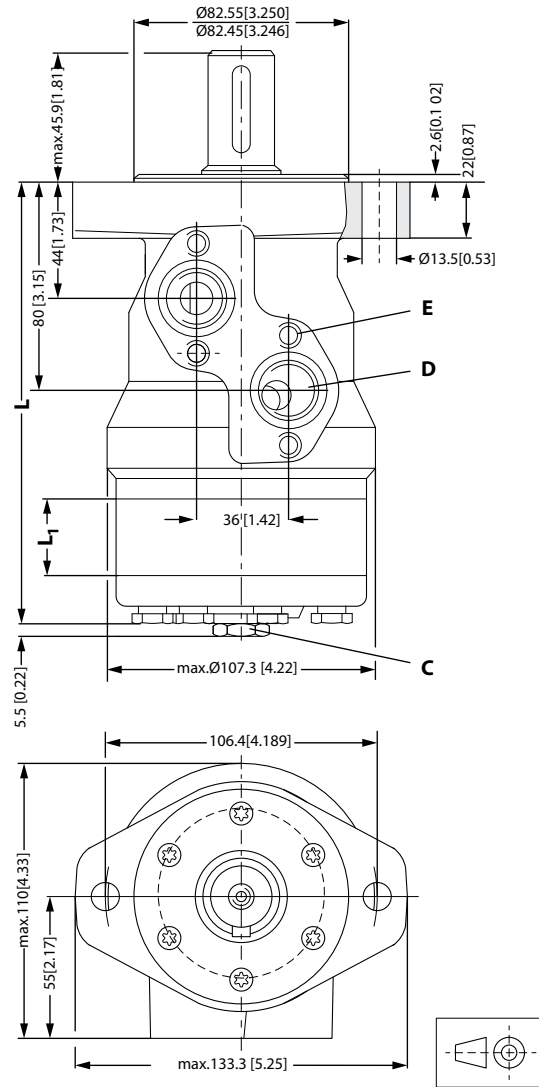
Type		OMRW 80 NF	OMRW 100 NF	OMRW 125 NF	OMRW 160 NF	OMRW 200 NF	OMRW 250 NF	OMRW 315 NF	OMRW 375 NF
L _{max}	mm	213.2	218.0	222.4	228.4	235.4	242.7	254.0	264.2
	[in]	[8.39]	[8.58]	[8.76]	[8.99]	[9.27]	[9.56]	[10.0]	[10.40]
L ₁	mm	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]
L _{2 max}	mm	159.2	161.9	166.3	172.3	179.3	188.7	200.0	210.2
	[in]	[6.27]	[6.37]	[6.55]	[6.78]	[7.06]	[7.43]	[7.87]	[8.28]
L ₃	mm	182.7	185.4	189.8	195.8	202.8	212.2	223.5	233.7
	[in]	[7.19]	[7.30]	[7.47]	[7.71]	[7.98]	[8.35]	[8.80]	[9.20]

OMR dimensions

OMR dimensions - US version

OMR Side port version with 2-hole oval mounting flange (A2-flange)

Side port - US version



151-1223.12

C: Drain connection 7/16 - 20 mm UNF; 12 mm [0.47 in] deep

D: 7/8 - 14 UNF; 16.76 mm [0.66 in] deep

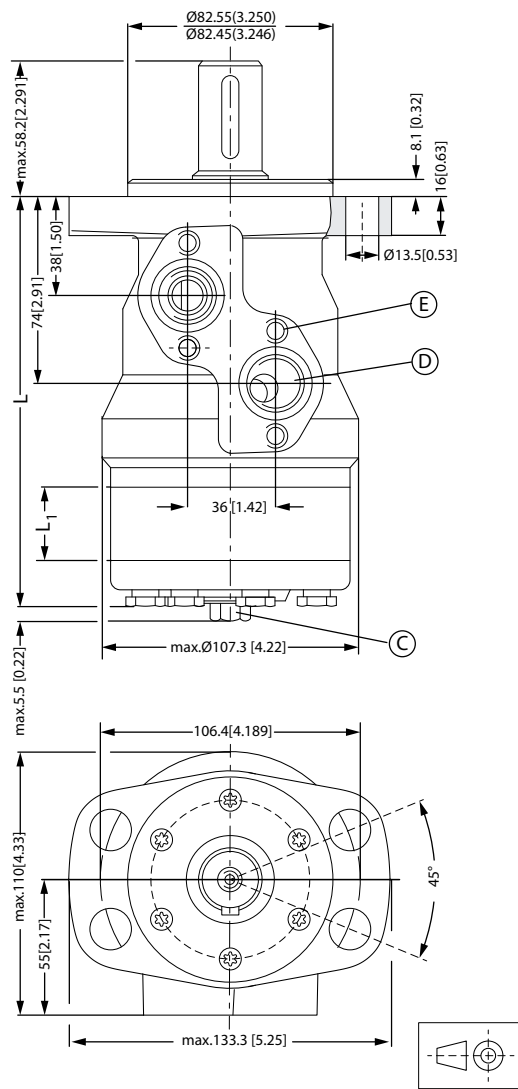
E: M8; 13 mm [0.51 in] deep (4-off)

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{max}	mm	143.7	148.7	152.1	156.5	162.5	169.5	178.2	189.5	199.7
	[in]	[5.66]	[5.85]	[5.99]	[6.16]	[6.40]	[6.67]	[7.02]	[7.46]	[7.86]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	64.8
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR Side port version with 4-hole oval mounting flange (A4-flange)

Side port - US version



151-1221.12

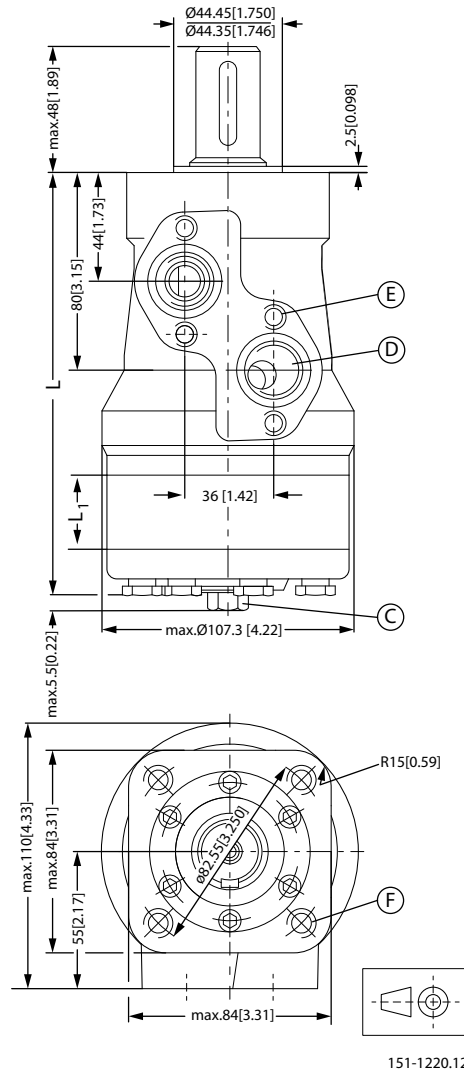
- C:** Drain connection 7/16 - 20 UNF; 12 mm [0.47 in] deep
- D:** 7/8 - 14 UNF; 17 mm [0.66 in] deep
- E:** M8; 13 mm [0.51 in] deep (4-off)

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{max}	mm	137.8	142.8	146.2	150.6	156.6	163.6	172.3	183.6	193.8
	[in]	[5.43]	[5.62]	[5.76]	[5.93]	[6.17]	[6.44]	[6.78]	[7.23]	[7.63]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMR Side port version with square mounting flange (C-flange)

Side port - US version



C: Drain connection 7/16 - 20 mm UNF; 12 mm [0.47 in] deep

D: 7/8 - 14 UNF; 17 mm [0.66 in] deep

E: M8; 13 mm [0.51 in] deep (4-off)

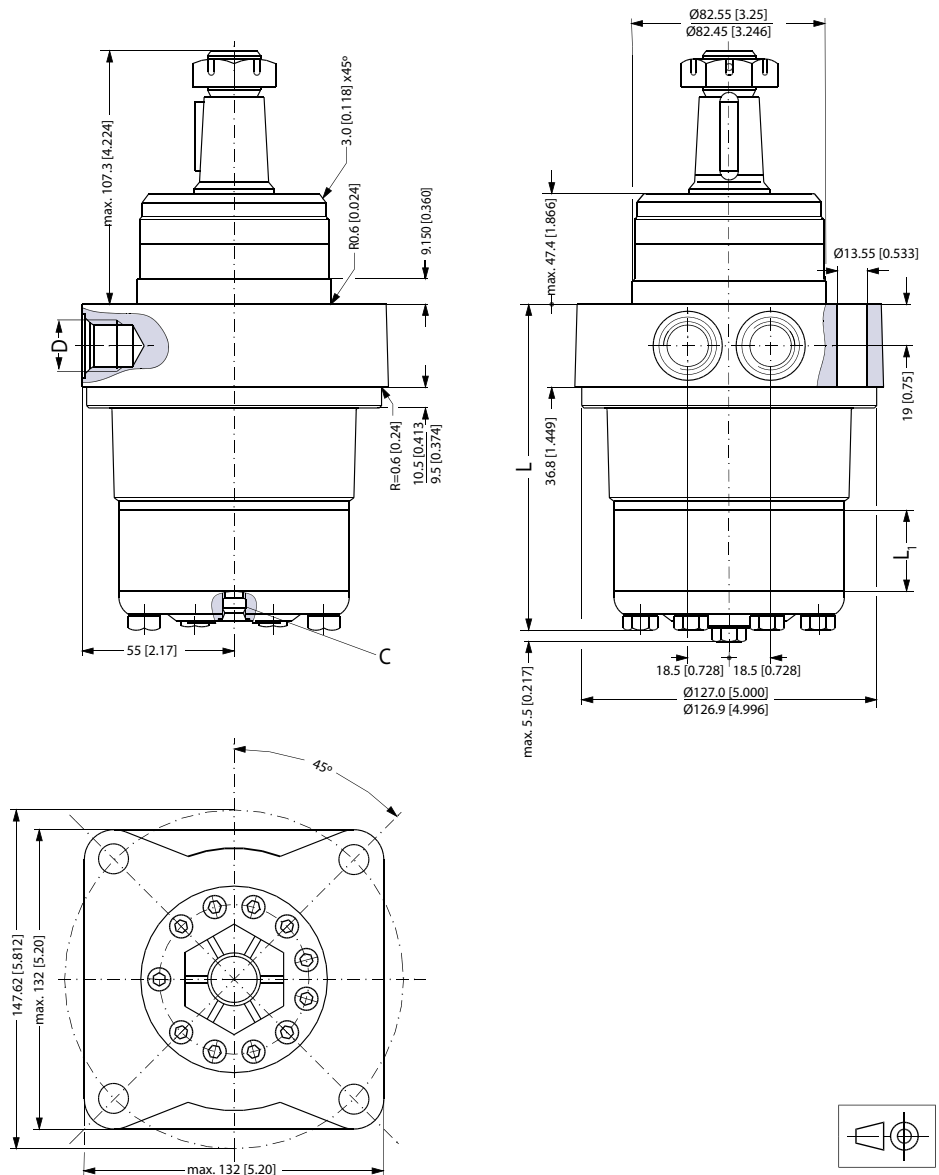
F: 3/8 - 16 UNC; 15 mm [0.59 in] deep (4-off)

Type		OMR 50	OMR 80	OMR 100	OMR 125	OMR 160	OMR 200	OMR 250	OMR 315	OMR 375
L _{max}	mm	143.8	148.8	152.2	156.6	162.6	169.6	178.3	189.6	199.8
	[in]	[5.66]	[5.86]	[5.99]	[6.17]	[6.40]	[6.68]	[7.02]	[7.46]	[7.87]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

OMR dimensions

OMRW N wheel motor

Wheel motor - US version



C: Drain connection 7/16 - 20 UNF; 12 mm [0.47 in] deep

D: 7/8 - 14 UNF; 17 mm [0.66 in] deep

Type		OMRW 50 N	OMRW 80 N	OMRW 100 N	OMRW 125 N	OMRW 160 N	OMRW 200 N	OMRW 250 N	OMRW 315 N	OMRW 375 N
L _{max}	mm	113.7	114.7	118.1	122.5	128.5	135.1	144.2	155.5	165.7
	[in]	[4.48]	[4.52]	[4.65]	[4.82]	[5.06]	[5.33]	[5.68]	[6.12]	[6.52]
L ₁	mm	9.0	14.0	17.4	21.8	27.8	34.8	43.5	54.8	65.0
	[in]	[0.35]	[0.55]	[0.69]	[0.86]	[1.09]	[1.37]	[1.71]	[2.16]	[2.56]

