

Spool Valve Motors

SMR series / SMRS Series

Features

Compact in design with spool valving and Geroler
 Imported high pressure capacity shaft seal
 Wide variety of mounting flanges, shafts, ports
 and speed provides design flexibility

Direction of shaft rotation and speed can be
 controlled easily and smoothly
 Best combination of efficiency and economy in
 medium duty applications

Specification Data

Displacement		50	63	80	100	160	200	250	305	370	395
cc/r											
Flow	Rated	38	45	53	53	53	53	53	53	53	53
	LPM	Max	45	57	57	57	57	57	57	57	57
Speed	Rated	680	610	600	480	305	240	185	154	135	128
	RPM	Max	850	800	650	520	330	270	210	180	150
Pressure	Rated	138	138	138	138	124	124	124	103	90	90
	Bar	Max	155	155	155	155	138	138	138	124	103
Torque	Rated	92	121	150	189	259	315	385	395	405	435
	Nm	Max	105	137	170	213	287	348	395	465	460
Weight	Kg	6.3	6.7	7.0	7.5	7.7	8.0	8.4	8.8	9.4	9.6

Max. pressure is the allowed pressure at the inlet port. Rated pressure is the working pressure difference between inlet and outlet port.

A simultaneous maximum RPM and maximum pressure NOT recommended

Maximum pressure or maximum RPM operation: 10% of every minute

Recommended fluids: Anti-wear type of hydraulic oil. Viscosity recommended 37-73 cSt. Recommended filtration ISO18/13. Maximum operating temperature recommended 80°C

Special high pressure capacity shaft seal ensures back pressure up to 10 Mpa. Recommended preferable back pressure 5 Mpa. Case drain line is recommended when back pressure higher than 5 Mpa. When case drain line is used, make sure the motor is always filled with oil. The motor life is benefited from a case drain line.

It is highly recommended that the motor runs at 30% of rated pressure for at least one hour before application of full load. Be sure the motor is filled with fluid prior to any load applications.

Spool Valve Motors

SMR /SMRS series Performance Data

Continuous

Intermittent

50 cc/r

		Δ Pressure Bar							
		28	55	69	97	110	124	138	155
7.6	18	37	46	64	72				
	152	147	142	134	124				
15.1	18	37	47	66	75	84	93		
	298	290	276	265	261	245	243		
22.7	17	37	47	66	75	84	93	105	
	450	438	434	419	410	407	389	373	
30.3	14	35	44	64	74	83	92	104	
	603	590	583	564	554	545	536	520	
37.9	14	34	44	64	73	83	92	104	
	750	738	732	713	702	696	682	661	
45.4			43	62	72	81	91	102	
			875	859	844	835	819	804	

63cc/r

		Δ Pressure Bar							
		28	55	69	97	110	124	138	155
7.6	22	47	59	80	91				
	111	107	105	96	92				
15.1	24	50	62	87	99	110	122		
	229	216	212	194	190	186	183		
22.7	22	48	60	86	99	111	123	138	
	343	334	321	319	315	291	288	276	
30.3	21	47	60	86	98	111	123	138	
	451	442	431	419	415	412	401	386	
37.9	18	45	58	84	97	110	122	137	
	565	552	547	532	525	512	504	496	
45.4	18	44	57	82	95	109	121	137	
	678	665	658	641	635	623	612	601	
53.0		42	55	81	95	107	120	135	
		778	771	753	746	733	723	711	
56.8		40	53	80	93	106	119	135	
		832	826	806	800	786	779	766	

80cc/r

		Δ Pressure Bar							
		28	55	69	97	110	124	138	155
7.6	30	61	77	106	119				
	90	83	80	70	63				
15.1	30	62	78	109	124	140	155		
	185	179	175	166	162	156	150		
22.7	29	61	77	109	124	140	155	174	
	275	267	265	253	248	240	232	221	
30.3	27	60	76	108	124	139	155	174	
	367	359	354	343	338	333	324	313	
37.9	26	58	74	106	122	138	153	173	
	460	450	446	435	428	420	412	399	
45.4	24	56	72	105	121	136	152	172	
	552	543	537	523	515	509	500	487	
53.0		54	70	102	118	134	150	170	
		635	630	616	609	599	592	578	
56.8		52	69	101	117	133	149	168	
		680	673	660	650	642	634	619	

100cc/r

		Δ Pressure Bar							
		28	55	69	97	110	124	138	155
7.6	39	79	98	135	152	171			
	71	66	63	56	51	46			
15.1	38	79	99	139	158	177	195		
	146	141	138	131	128	124	118		
22.7	37	78	98	139	158	178	196	219	
	217	211	208	199	195	190	184	174	
30.3	36	76	97	137	157	177	195	218	
	290	284	280	271	267	262	255	245	
37.9	33	74	95	135	155	174	193	217	
	363	355	351	343	337	332	325	315	
45.4	31	72	92	133	153	173	192	215	
	436	429	424	414	409	402	395	384	
53.0	27	69	90	130	150	170	189	213	
	510	501	497	487	482	475	469	456	
56.8		67	88	128	148	168	187	211	
		537	532	522	516	510	502	490	

27 Torque Nm
510 Speed RPM

160cc/r

		Δ Pressure Bar						
		28	55	69	97	110	124	138
7.6	61	123	153	209	235	261		
	45	42	40	34	30	25		
15.1	61	124	155	214	242	269	295	
	95	91	90	85	82	78	73	
22.7	59	123	155	215	243	271	297	
	140	136	134	129	125	121	114	
30.3	57	121	152	213	242	270	296	
	187	183	181	175	172	166	259	
37.9	53	117	149	209	239	266	293	
	234	230	227	222	218	211	203	
45.4	49	114	146	206	235	263	291	
	282	277	274	269	265	257	248	
53.0	45	109	141	201	230	259	287	
	329	323	321	316	311	305	296	
56.8		107	139	198	228	257	284	
		347	344	339	334	327	318	

200cc/r

		Δ Pressure Bar					
		28	55	69	97	110	124
7.6	76	152	187	253	283		
	36	33	31	25	20		
15.1	76	154	191	259	292	324	355
	77	73	73	68	65	61	55
22.7	74	154	192	263	294	328	359
	113	110	109	104	100	95	87
30.3	72	150	189	260	293	326	359
	151	148	146	142	139	132	123
37.9	67	146	185	255	290	323	355
	189	186	184	181	176	166	156
45.4	62	142	182	251	286	320	353
	228	224	222	219	213	204	192
53.0	56	137	176	246	291	315	348
	266	261	259	256	251	242	229
56.8		133	172	242	278	313	346
		281	279	275	269	260	247

Spool Valve Motors

SMR /SMRS series Performance Data

- Continuous
- Intermittent

250 cc/r

		Δ Pressure Bar							
		28	55	69	97	110	114	125	127
Flow LPM	7.6	94	187	230	306				
		29	26	24	17				
	15.1	95	192	235	319	359	368		
		62	59	59	55	50	49		
	22.7	93	191	236	321	361	371	401	410
		91	89	88	82	78	76	72	71
	30.3	89	187	233	319	359	369	399	408
		122	120	119	113	108	106	101	99
	37.9	84	182	288	313	356	366	396	406
		152	150	148	143	136	134	127	125
	45.4	78	175	222	309	351	361	392	402
		183	180	179	173	166	163	156	153
	53.0	71	169	216	302	345	356	386	397
		213	211	209	202	195	193	185	182
	56.8		165	212	298	341	352	383	394
			226	224	217	209	207	200	197

117 Torque Nm
23 Speed RPM

305cc/r

		Δ Pressure Bar							
		28	41	55	69	83	97	103	110
Flow LPM	7.6	117	176	230	283	329	366		
		23	22	21	19	16	11		
	15.1	119	180	237	289	342	391	416	
		49	48	48	47	47	44	41	
	22.7	116	178	237	290	342	391	417	441
		74	72	72	71	69	64	62	60
	30.3	110	172	232	285	339	390	414	438
		98	97	97	96	94	89	86	83
	37.9	105	166	226	280	334	385	410	435
		122	121	120	120	117	112	108	104
	45.4	98	159	216	271	326	379	404	428
		146	145	145	145	142	136	131	127
	53.0	89	151	209	264	318	371	397	423
		171	170	170	169	165	159	154	150
	56.8			204	258	313	366	393	419
				182	181	177	171	165	160

370cc/r

		Δ Pressure Bar						
		14	28	41	55	69	83	90
Flow LPM	7.6	67	140	210	272	334		
		20	19	18	17	15		
	15.1	66	143	215	283	342	402	430
		41	41	40	40	39	38	37
	22.7	65	141	214	283	342	400	428
		61	60	60	59	58	57	56
	30.3	58	131	206	277	336	397	427
		82	81	80	79	78	77	77
	37.9	50	126	199	270	331	393	424
		102	102	101	101	100	97	96
	45.4	38	120	191	255	318	383	416
		122	121	120	119	119	118	116
	53.0	26	108	182	249	310	375	408
		142	141	140	139	138	137	134
	56.8				242	303	370	403
					150	149	147	146

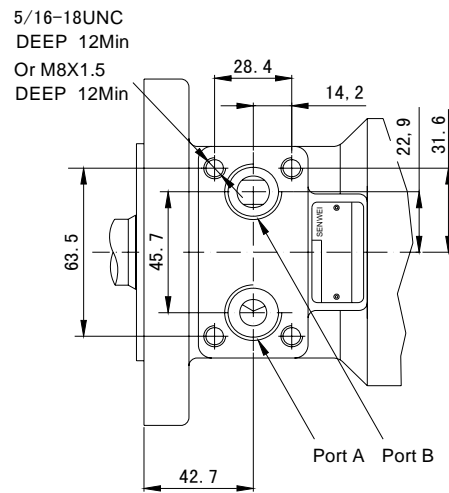
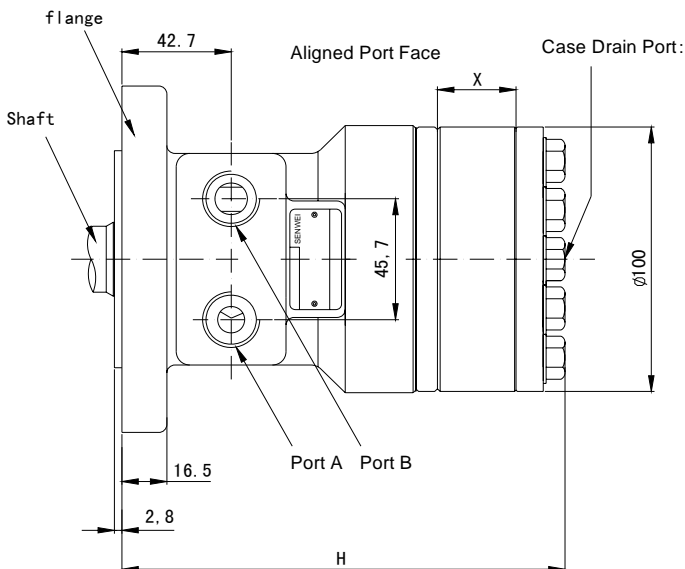
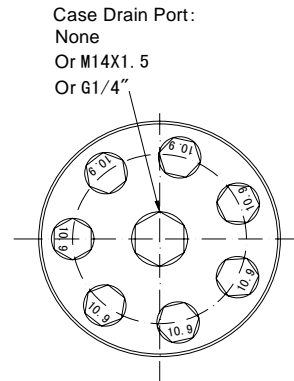
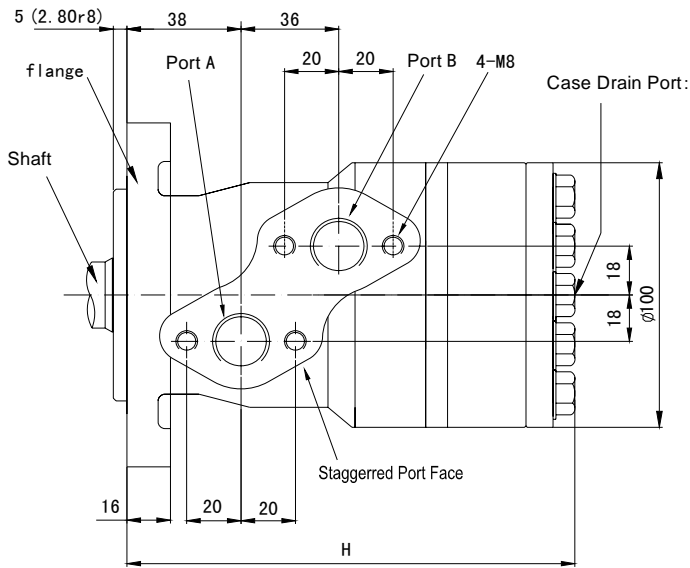
395cc/r

		Δ Pressure Bar						
		14	28	41	55	69	83	90
Flow LPM	7.6	71	150	224	290	356		
		18	17	17	16	14		
	15.1	70	152	229	302	365	429	458
		38	38	37	37	36	36	35
	22.7	69	150	228	302	365	427	456
		57	57	57	55	54	53	52
	30.3	62	140	220	295	358	423	455
		77	76	75	74	73	72	72
	37.9	53	134	212	288	353	419	452
		96	96	95	95	94	91	90
	45.4	40	129	204	272	339	408	444
		114	113	112	111	111	110	108
	53.0	28	115	194	267	330	400	435
		133	132	131	130	129	128	125
	56.8				258	323	394	430
					141	140	138	137

Performance data is typical with N68 anti-wear hydraulic oil at 50° C temperature. Actual data may vary slightly from unit to unit in production

Spool Valve Motors

SMR/SMRS Series Dimensions



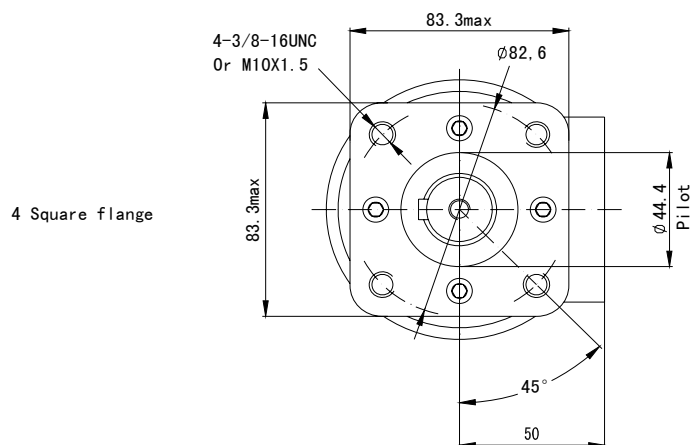
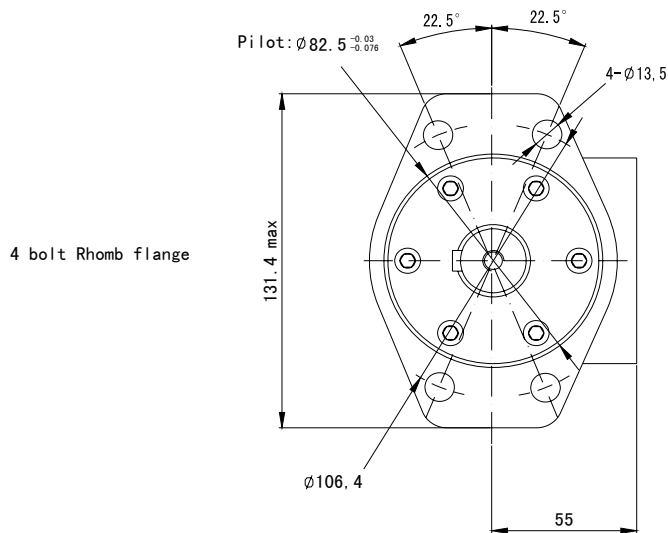
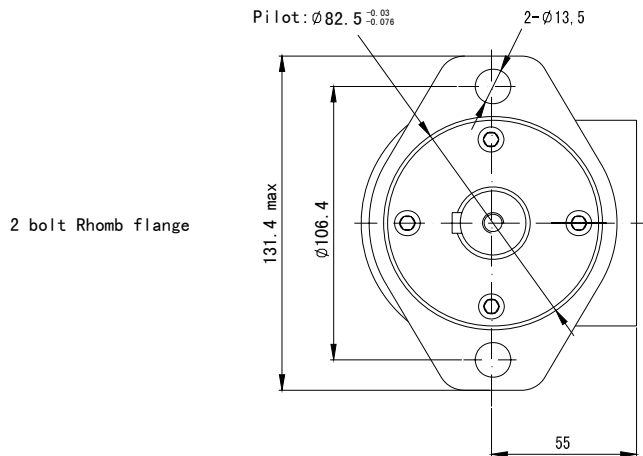
Displacement	50	63	80	100	125	160	200	250	305	370	395
H mm	139	142	145	148	153	159	166	175	175	198	202

Standard Rotation: Viewed from shaft end
 Port A pressurized ———CW
 Port B pressurized ———CWW

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Spool Valve Motors

SMR/SMRS Series Flange and Pilot

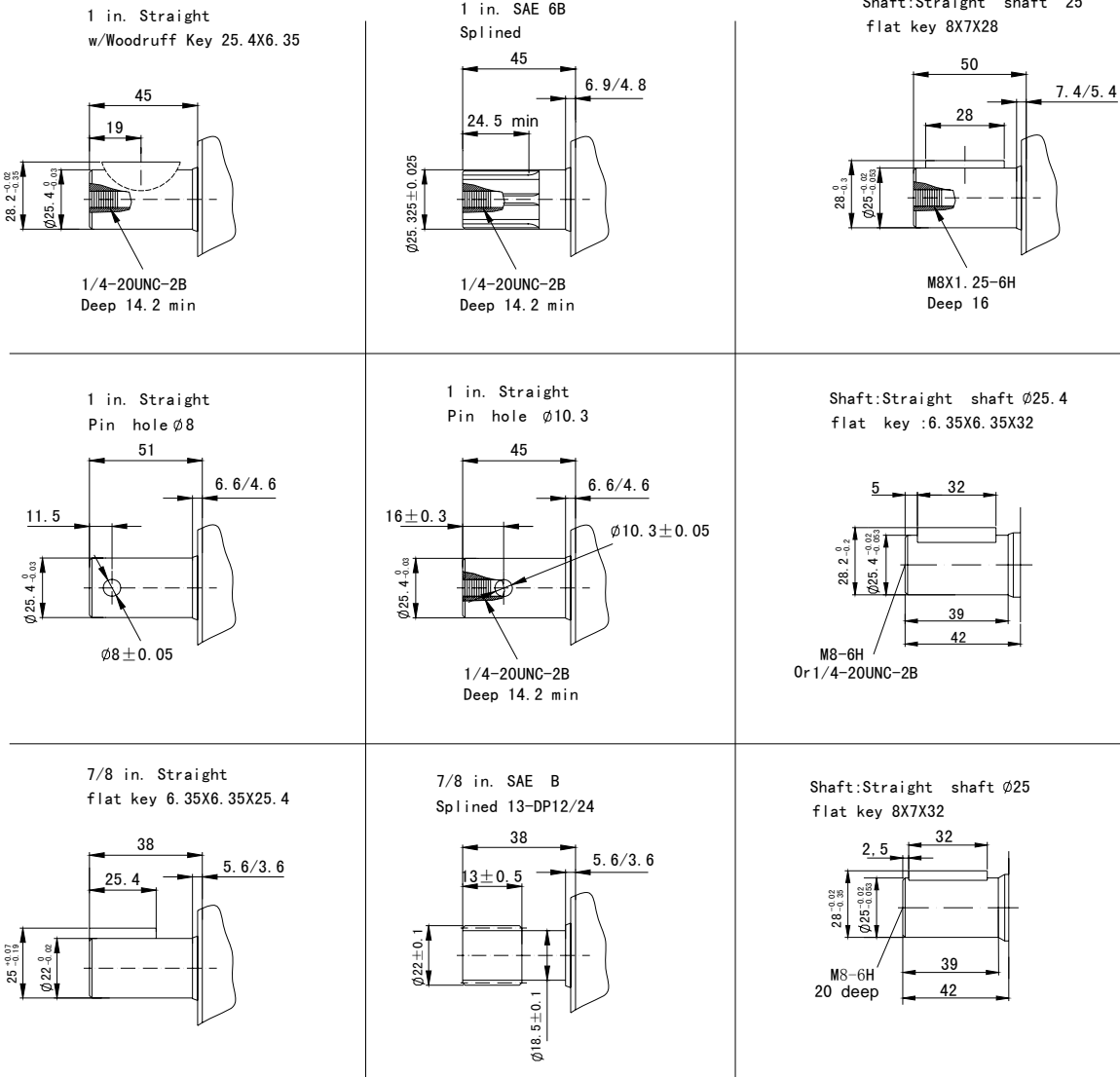


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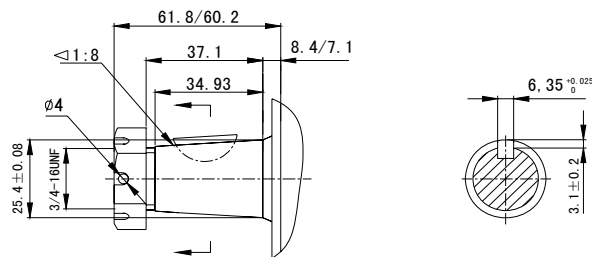
Spool Valve Motors

SMR/SMRS Series

Shaft



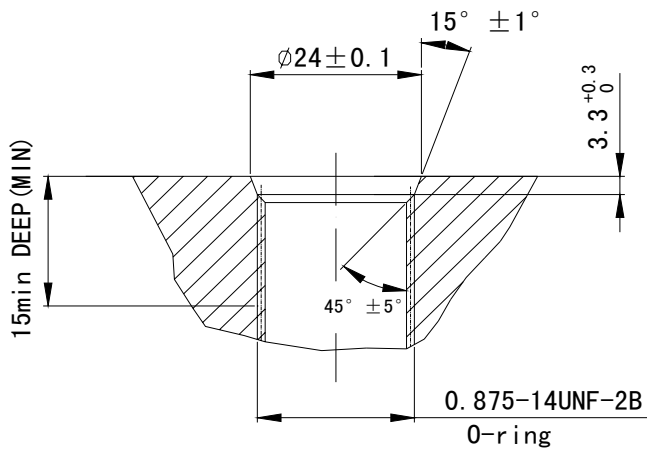
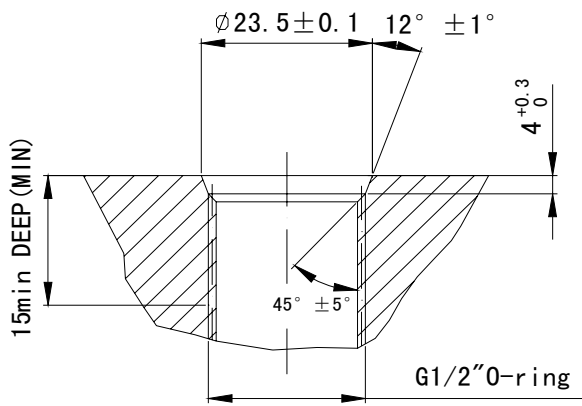
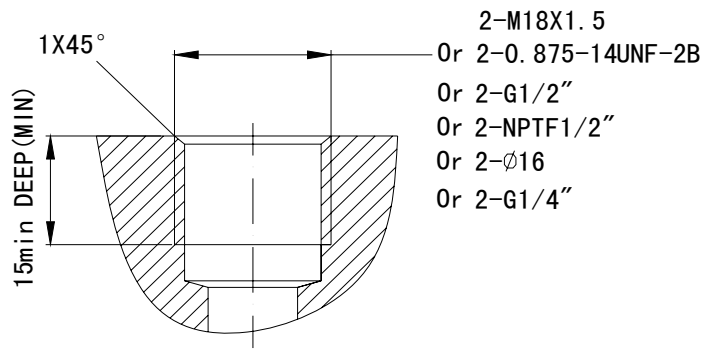
Cone-shaft Ø25.4
Woodruff Key



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Spool Valve Motors

SMR/SMRS Series Port options



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Spool Valve Motors

SMR Series Customer Order Information

Flange and pilot	Shaft	Port	Displacement cc/r											
			50	63	80	100	125	160	200	245	305	370	395	
2 Bolt Flat Pilot Φ 82.55 Pilot length 5	Straight ϕ 25 Flat key 8	Staggerred port M18X1.5 No case drain	131m0380	0381	0382	0383	038a	0384	0385	0386	0387	0388	0389	
	Straight ϕ 25 Flat key 8	Staggerred port G1/2" No case drain	131m0390	0391	0392	0393	039a	0394	0395	0396	0397	0398	0399	
	Straight ϕ 25.4 Flat key 6.35	Aligned port G1/2" Case drain M14X1.5	131m0400	0401	0402	0403	040a	0404	0405	0406	0407	0408	0409	
	Straight ϕ 25.4 Flat key 6.35	Staggerred port M18X1.5 No case drain	131m0410	0411	0412	0413	041a	0414	0415	0416	0417	0418	0419	
	Straight ϕ 25.4 Flat key 6.35	Staggerred port G1/2" No case drain	131m0420	0421	0422	0423	042a	0424	0425	0426	0427	0428	0429	
	Straight ϕ 25 Flat key 8	Aligned port NPTF1/2 Case drain M14X1.5	131m0480	0481	0482	0483	048a	0484	0485	0486	0487	0488	0489	
	Straight ϕ 25 Flat key 8	Aligned port G1/2 " Case drain G1/4 "	131m8390	8391	8392	8393	839a	8394	8395	8396	8397	8398	8399	
	Straight ϕ 25 Flat key 6.35	Aligned port G1/2 " Case drain G1/4 "	131m8400	8401	8402	8403	840a	8404	8405	8406	8407	8408	8409	

SMRS Series Customer Order Information

Flange and pilot	Shaft	Port	50
2 Bolt Flat Pilot Φ 82.55 Pilot length 5	Straight ϕ 25 Flat key 8	Staggerred port M18X1.5 No case drain	136m0380
	Straight ϕ 25 Flat key 8	Staggerred port G1/2" No case drain	136m0390
	Straight ϕ 25.4 Flat key 6.35	Aligned port G1/2" Case drain M14X1.5	136m0400
	Straight ϕ 25.4 Flat key 6.35	Staggerred port M18X1.5 No case drain	136m0410
	Straight ϕ 25.4 Flat key 6.35	Staggerred port G1/2" No case drain	136m0420
	Straight ϕ 25 Flat key 8	Aligned port NPTF1/2 Case drain M14X1.5	136m0480
	Straight ϕ 25.4 Flat key 6.35	Aligned port G1/2" Case drain G1/4"	136m9510

NOTE: Take this page
For features t
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Spool Valve Motors

SMRS Series Customer Order Information

Flange	Shaft	Ports	Displacement cc/r										
			50	63	80	100	125	160	200	250	305	370	395
2Bolt	1 in. Straight w/Woodruffkey	7/8-14 O-ring	113m0010	0011	0012	0013	001a	0014	0015	0016	0017	0018	0019
		1/2 NPTF	113m0020	0021	0022	0023	002a	0024	0025	0026	0027	0028	0029
		Manifold*	113m0030	0031	0032	0033	003a	0034	0035	0036	0037	0038	0039
Flange	1 in. SAE 6B Splined	7/8-14 O-ring	113m0110	0111	0112	0113	011a	0114	0115	0116	0117	0118	0119
		1/2 NPTF	113m0120	0121	0122	0123	012a	0124	0125	0126	0127	0128	0129
		Manifold*	113m0130	0131	0132	0133	013a	0134	0135	0136	0137	0138	0139
4Bolt	1 in. Straight w/Woodruffkey	7/8-14 O-ring	113m1010	1011	1012	1013	101a	1014	1015	1016	1017	1018	1019
		1/2 NPTF	113m1020	1021	1022	1023	102a	1024	1025	1026	1027	1028	1029
		Manifold*	113m1030	1031	1032	1033	103a	1034	1035	1036	1037	1038	1039
Flange	1 in. SAE 6B Splined	7/8-14 O-ring	113m1110	1111	1112	1113	111a	1114	1115	1116	1117	1118	1119
		1/2 NPTF	113m1120	1121	1122	1123	112a	1124	1125	1126	1127	1128	1129
		Manifold*	113m1130	1131	1132	1133	113a	1134	1135	1136	1137	1138	1139

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Spool Valve Motors

SMR/SMRS Series Customer Order Information

1	2	3	4	5	6	7	8	9	10	11
S	M	R(RS)								

If the specification is not in the table or you have specific requirements, please contact us.

Pos. 1 : S — Power

Pos. 2 : M — Motor

Pos. 3 : R — R series

: RS — Big radial force

Pos. 4, 5: Displacement cc/r

0 1 — 50

0 2 — 63

0 3 — 80

0 4 — 100

0 5 — 125

0 6 — 160

0 7 — 200

0 8 — 250

0 9 — 305

1 0 — 370

1 1 — 395

Pos. 6 : Flange And Pilot

A — 2- ϕ 13.5 Rhomb-flange,
pilot ϕ 82.5X5

B — 2- ϕ 13.5 Rhomb-flange,
pilot ϕ 82.5X2.8

C — 4- ϕ 13.5 Rhomb-flange
pilot ϕ 82.5X5

D — 4-3/8-16 Square-flange,
pilot ϕ 44.4X2.8

E — 4-M10X1.5 Square-flange,
pilot ϕ 44.4X2.8

Pos. 7 8 : Shaft

0 1 — Shaft ϕ 25.4
Woodruff key ϕ 25.4X6.35

0 2 — Shaft ϕ 25.4
Splined key SAE 6B

0 3 — Shaft ϕ 25.4
pin hole ϕ 8

0 4 — Shaft ϕ 25.4
pin hole ϕ 10.2

0 5 — Shaft 7/8"
Splined key 13-DP16/32

0 6 — Shaft 7/8"
flat key 6.35X63.5X25.4

0 7 — Cone shaft ϕ 25.4,
Woodruff key ϕ 25.4X6.35

0 8 — Shaft ϕ 25.4
flat key 6.35X32

0 9 — Shaft ϕ 25
flat key 8X7X28

1 0 — Shaft ϕ 25
flat key 8X7X32

Pos. 9 : port

A — 7/8-14 O-ring

B — 1/2-14NPTF O-ring

C — Manifold (4-5/16-18UNC)

D — Manifold (4-M8X1.25)

E — G1/2 (BSP)

F — G1/2 O-ring

G — PT1/2 PT1/4

Pos. 10 : Drain port

0 — None

1 — G1/4 (BSP)

2 — 7/16-20 O-ring

3 — M14X1.5

Pos. 11 Paint

A — No Paint

B — Blue (standard)

C — Black (standard)