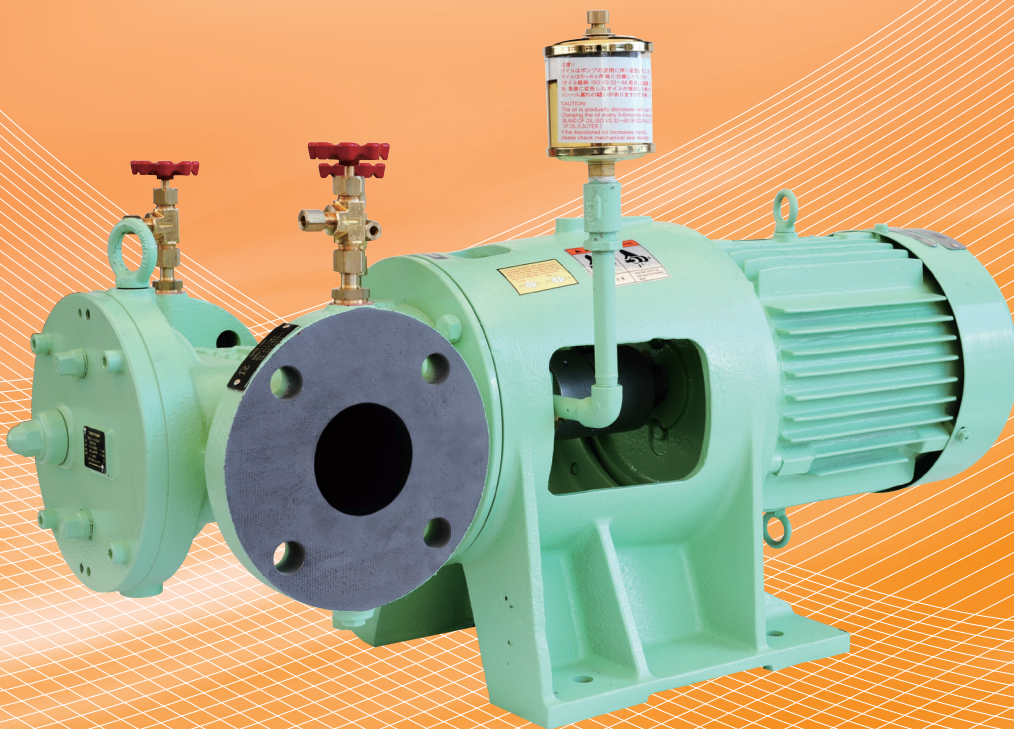




3 SCREW PUMP

MSDK-MA
MSDK-HMA

SCREW



大晃機械工業株式会社
TAIKO KIKAI INDUSTRIES CO., LTD.

特長

MSDK-MAシリーズは、燃料の低粘度化に伴い新規設計した一般用電動横型低圧3軸ねじポンプです。一般的には、主機、補機、発電機系統に使用する潤滑油、燃料ポンプや工作機械、製鉄機械などに使用する油圧ポンプ等に使用されます。

- ねじ：1本の主ねじとこれに油圧駆動される2本の従ねじの三軸のねじで構成されています。



Feature

MSDK-MA series are newly introduced Electric motor driven low pressure 3 screw pumps with our latest design in order to handle low viscous fuel oil. MSDK-MA is applied for F. O. pump and L. O. pump for M/E, A/E and G/E. Also used for hydro-oil pump for machining center and for steel mills.

- This pump is composed of two idler rotors meshed with a power rotor which are cased in a sleeve. The idler rotors are driven by the liquid pressure.

仕様

- 温度：取扱い油温は、最高150℃です。
- 軸受：外装軸受式でグリス潤滑方式のため、低粘度燃料油(灯油、軽油、ISO8217:DMX、DMA等)にも使用可能です。
- 軸封：メカニカルシールが標準です。
- フランジ：吸込、吐出し側共にJIS10KFFです。(JISB2239準拠)F.O.CIRC.PUMPに準拠するため、吐出フランジの外径、厚さはJIS16Kに準じています。
- 軸芯：フランジ式モータとポンプをポンプフレームに取り付け、フレキシブルカップリングにて結合します。モータフレーム、カップリング及びポンプの各はめあい部が精密に加工されているためアライメント作業を容易に行えます。
- 耐圧試験：計画仕様圧力の2倍が標準です。
- 吐出量：吐出量は、吐出し圧力0.6MPa、1.0MPa、粘度20mm²/sにおける量です。許容吸込圧力は範囲は、ポンプ入口において-0.05~+0.5MPaです。

Specification

- Temperature：Maximum handling oil temperature is 150℃.
- Bearing：External metal with grease lubricating method. This pump can be used low viscous fuel oil (kerosene, diesel oil, and ISO 8217 ; DMX, DMA etc) can be handled.
- Shaft Seal：The mechanical seal is our standard.
- Flange：Both suction and discharge are JIS10K FF (JISB2239). In order to use for F.O. CIRC. Pump, dis. flange outer diameter and thickness are equivalent to JIS 16K.
- Centering：Fit pump frame between pump and flange motor and connect with flexible coupling. Each connection part is precisely machined so that coupling alignment work is easy.
- Hydraulic Test：Twice the value of the designed specification pressure.
- Capacity：The following capacity shows at viscosity of 20 mm²/s with total pressure of 0.6MPa, 1.0MPa. The allowable suction pressure range is -0.05~0.5MPa at the pump suction.

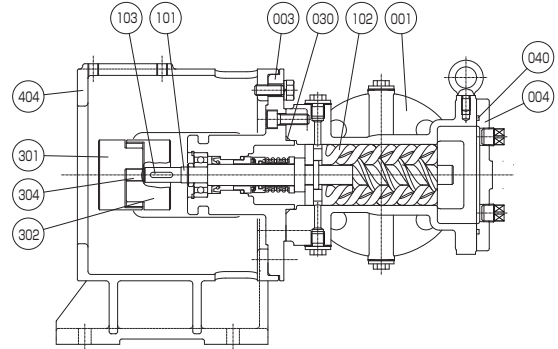
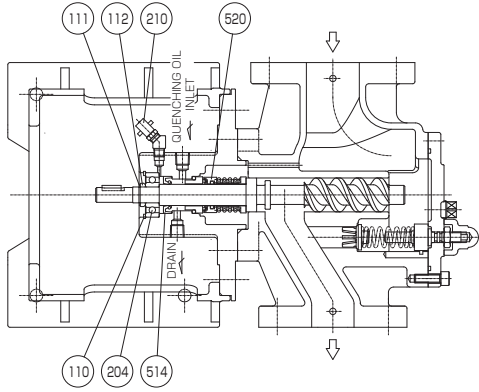
型式 Model	口径 Bore(mm) 吸込×吐出し Suc.×Dis.	全圧力 Total Pressure 0.6MPa 吐出量 Capacity(m ³ /h)		全圧力 Total Pressure 1.0MPa 吐出量 Capacity(m ³ /h)	
		3600min ⁻¹	3000min ⁻¹	3600min ⁻¹	3000min ⁻¹
MSDK-1MA	32×25	1.1	0.85	0.9	0.7
MSDK-1.5MA	40×32	1.7	1.3	1.5	1.1
MSDK-2MA		2.4	1.9	2.1	1.6
MSDK-2.5MA	50×40	2.5	2.0	2.3	1.7
MSDK-3MA		3.0	2.4	2.8	2.1
MSDK-4MA	65×50	4.3	3.5	4.0	3.1
MSDK-5MA		5.3	4.2	4.9	3.8
MSDK-6MA		6.2	5.0	5.8	4.6
MSDK-7.5MA		7.4	6.0	7.0	5.5
MSDK-10MA	80×65	10.6	8.5	10.0	7.9
MSDK-12MA		11.2	9.0	10.4	8.2
MSDK-15MA		16.1	12.9	15.1	11.9
MSDK-20MA	100×80	21.5	17.3	20.3	16.1
MSDK-25MA		25.3	20.4	23.9	19.0
MSDK-30MA		31.0	25.5	30.3	24.8
MSDK-35MA	125×100	37.4	30.7	36.6	29.9
型式 Model	吸込×吐出し Suc.×Dis.	1800min ⁻¹	1500min ⁻¹	1800min ⁻¹	1500min ⁻¹
MSDK-0.3MA	32×25	0.34	0.21	0.20	-
MSDK-0.5MA		0.55	0.37	0.37	0.19

表中の吐出量は、動粘度20mm²/sでの予想吐出量です。

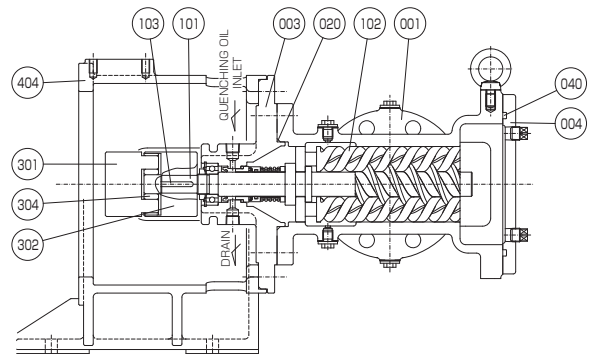
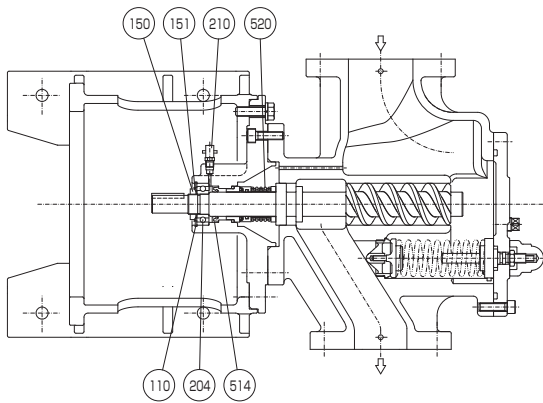
The above capacity shows at kinematic viscosity of 20mm²/s.

構造及び材質

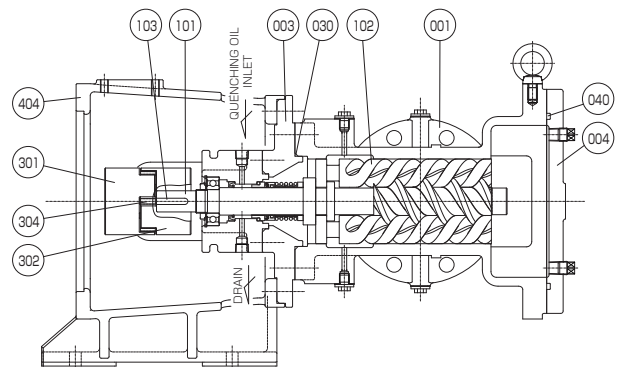
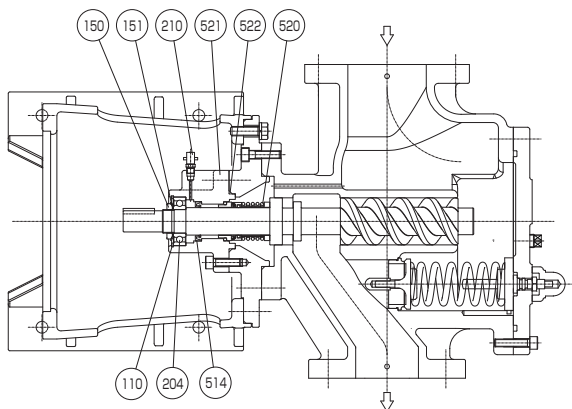
Structure and Material



MSDK-0.3~3MA



MSDK-4~15MA

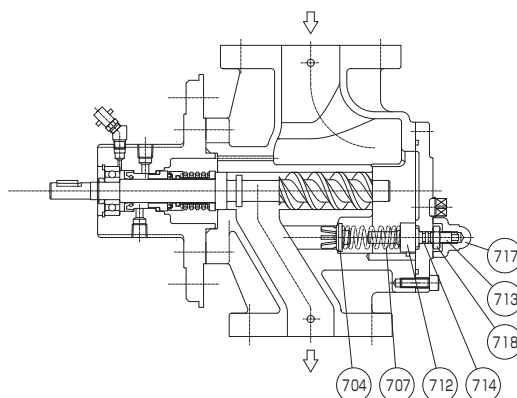


MSDK-20~35MA

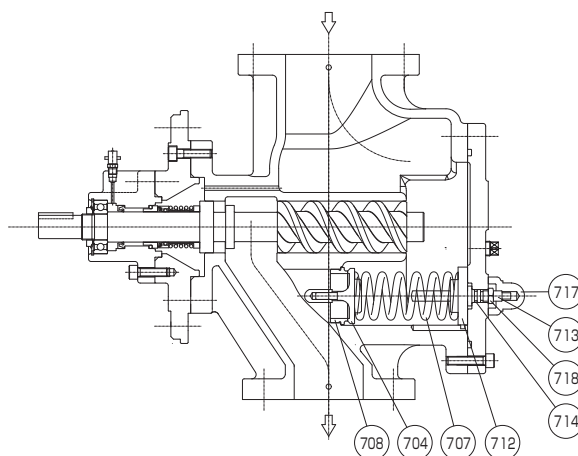
構造及び材質

Structure and Material

逃がし弁詳細
Detail Safety Valve



MSDK-0.3~3MA

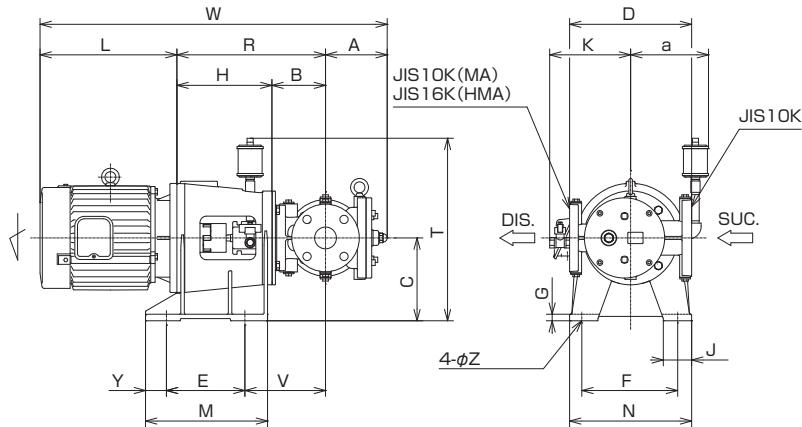


MSDK-4~35MA

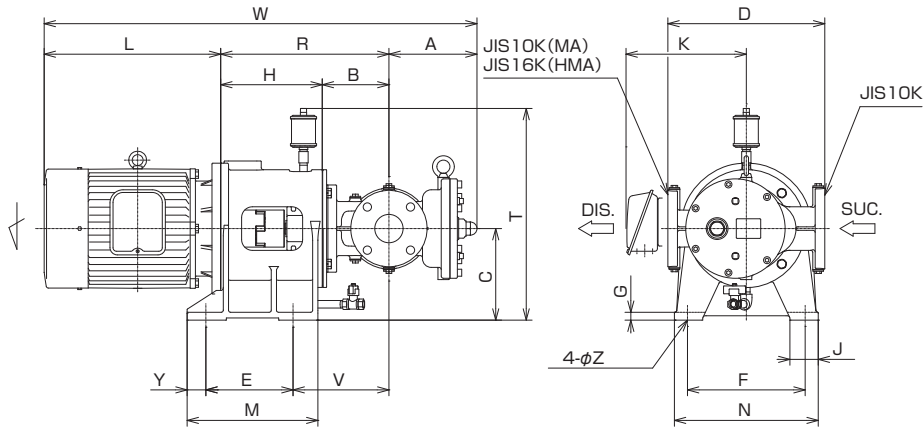
No.	Name	Material		Q'ty	No.	Name	Material		Q'ty
		Symbol	Name of Material				Symbol	Name of Material	
001	Casing	FC200	Cast iron	1	302	Coupling	-	Aluminum alloy	1
003	Casing cover	FC200	Cast iron	1	304	Coupling element	-	Rubber	1
004	Rear cover	FC200	Cast iron	1	404	Pump frame	FC250	Cast iron	1
030	O-ring	FPM	Rubber	1	514	Oil seal	FPM	Rubber	1
040	O-ring	FPM	Rubber	1	520	Mechanical seal	-	Cm&carbon	1
101	Power rotor	S45C	Carbon steel	1	521	Seal cover	FC250	Cast iron	1
102	Idler rotor	FCD-500	Ductile cast iron	2	522	O-ring	FPM	Rubber	1
103	key	S45C	Carbon steel	1	704	Safety valve	SUS410	Stainless steel	1
110	Retaining ring	SK5	Carbon tool steel	1	706	Safety valve seat	CAC402	Bronze	1
111	Retaining ring	SK5	Carbon tool steel	1	707	Safety valve spring	SUP6	Spring steel	1
112	Spacer ring	SS400	Mild steel	1	712	Spring carrier	SS400	Mild steel	1
150	Bearing nut	SS400	Mild steel	1	713	Adjust screw	SS400	Mild steel	1
151	Bearing washer	SS400	Mild steel	1	714	O-ring	FPM	Rubber	1
204	Ball Bearing	SUJ2	Bearing steel	1	717	Safety valve cap	FC200	Cast iron	1
210	Grease nipple	C3602	Brass	1	718	Lock nut	SS400	Mild steel	1
301	Coupling	-	Aluminum alloy	1					

寸法

Dimension



MSDK-0.3~6MA



MSDK-7.5~35MA

型式 Type	モータ Motor				口径 Bore		寸法 Dimension (mm)																	Weight (kg)			Motor Flange		
	Flange	Frame	kW	min ⁻¹	吸込み SUC.	吐出し DIS.	A	B	C	D	E	F	G	H	J	K	L	M	N	R	T	V	W	Y	Z	a		Pump	Motor
MSDK -0.3,-0.5MA	FF130	71	0.4	1800	32	25	140	77	140	224	120	160	15	169.4	55	190	231	180	220	246.4	390	120	617.4	27	12	195	27	9.1	FF130
	FF165	80	0.75	1800			140	77	160	224	140	190	15	180	65	190	233	200	250	257	410	120	630	27	12	195	29	16	FF165
MSDK -1MA	FF165	80	0.75	3600	32	25	140	77	160	224	140	190	15	180	65	190	233	200	250	257	410	120	630	27	12	195	29	16	FF165
	FF165	90L	1.5/2.2	3600			140	77	160	224	140	190	15	190	65	190	277	200	250	267	410	120	684	27	12	195	30	24/25	FF165
MSDK -1.5,-2MA	FF165	80	0.75	3600	40	32	140	77	160	224	140	190	15	180	65	190	233	200	250	257	410	120	630	27	12	195	29	16	FF165
	FF165	90L	1.5/2.2	3600			140	77	160	224	140	190	15	190	65	190	277	200	250	267	410	120	684	27	12	195	30	24/25	FF165
MSDK -2.5,-3MA	FF165	80	0.75	3600	50	40	150	97	160	250	140	190	15	180	65	190	233	200	250	277	410	140	660	27	12	195	32	16	FF165
	FF165	90L	1.5/2.2	3600			150	97	160	250	140	190	15	190	65	190	277	200	250	287	410	140	714	27	12	195	33	24/25	FF165
MSDK -4,-5,-6MA	FF215	112M	3.7	3600	65	50	150	97	190	250	150	190	15	205	65	190	355	220	250	302	440	140	807	37	15	195	37	42	FF215
	FF165	90L	1.5/2.2	3600			160	123	160	280	160	190	15	203	65	190	277	250	250	326	410	185	763	38	15	200	45	24/25	FF165
MSDK -7.5,-10MA	FF215	112M	3.7	3600	80	65	160	123	190	280	180	220	15	218	65	190	355	280	280	341	440	185	856	48	15	200	48	42	FF215
	FF265	132S	5.5/7.5	3600			160	123	210	280	200	270	18	242	65	211	405	300	330	365	460	185	930	48	15	200	56	69/79	FF265
MSDK -12,-15MA	FF265	132S	5.5/7.5	3600	80	65	180	143	190	320	180	220	18	218	65	170	355	280	280	361	480	210	896	43	15	—	60	42	FF215
	FF265	132S	5.5/7.5	3600			180	143	210	320	200	270	18	242	65	211	405	300	330	385	500	210	970	43	15	—	68	69/79	FF265
MSDK -20,-25MA	FF300	160M	11/15	3600	100	80	180	143	250	320	240	300	20	274	75	290	493	330	360	417	540	210	1090	33	19	—	82	121/136	FF300
	FF300	160L	18.5	3600			180	143	250	320	240	300	20	274	75	290	533	330	360	417	540	210	1130	33	19	—	82	138	FF300
MSDK -30,-35MA	FF265	132S	5.5/7.5	3600	125	100	220	153	210	360	200	270	18	233	65	211	405	300	330	386	510	220	1011	43	15	—	80	69/79	FF265
	FF300	160M	11/15	3600			220	153	250	360	240	300	20	265	75	290	193	330	360	418	550	220	1131	33	19	—	90	121/136	FF300
MSDK -30,-35MA	FF300	160M	11/15	3600	125	100	220	153	250	360	240	300	20	265	75	290	533	330	360	418	550	220	1171	33	19	—	90	138	FF300
	FF300	160L	18.5	3600			240	173	210	400	200	270	18	266	65	211	405	300	330	439	520	240	1084	43	15	—	106	69/79	FF265
MSDK -30,-35MA	FF300	160M	11/15	3600	125	100	240	173	250	400	240	300	20	298	75	290	193	330	360	471	560	240	1204	33	19	—	117	121/136	FF300
	FF300	160L	18.5	3600			240	173	250	400	240	300	20	298	75	290	533	330	360	471	560	240	1244	33	19	—	117	138	FF300
MSDK -30,-35MA	FF350	180M	22	3600	125	100	240	173	280	400	240	340	20	300	75	350	566.5	350	410	473	590	240	1279.5	53	19	—	132	168	FF350
	FF300	160M	11/15	3600			250	195	250	448	240	300	20	311	75	290	493	350	360	506	600	270	1249	45	19	—	146	138	FF300
MSDK -30,-35MA	FF350	180M	22	3600	125	100	250	195	250	448	240	300	20	311	75	290	533	350	360	506	600	270	1289	45	19	—	146	138	FF300
	FF350	180L	30	3600			250	195	280	448	240	340	20	313	75	350	566.5	350	410	508	630	270	1324.5	45	19	—	159	168	FF350
MSDK -30,-35MA	FF350	180L	30	3600	125	100	250	195	280	448	240	340	20	313	75	350	604.5	350	410	508	630	270	1362.5	45	19	—	159	250	FF350

※電動機メーカー及び形番によりW,L,K寸法及び質量が異なります。

Depend on motor manufacturer and model, measurement of W,L,K and weight maybe changed.

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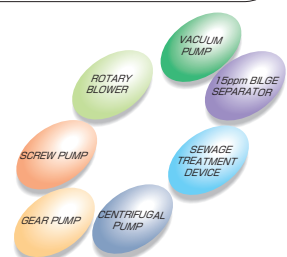
URL <http://www.taiko-kk.com>

- 本 社 ・ 工 場 〒742-1598 山口県熊毛郡田布施町大字下田布施209-1
TEL: (0820)52-3113~4 FAX: (0820)53-1001
E-mail: business@taiko-kk.com
- 東 京 支 店 〒101-0061 東京都千代田区三崎町3-4-9 水道橋MSビル4階
TEL: (03) 3221-8551 FAX: (03) 3221-8555
E-mail: tokyo-br@taiko-kk.com
- 大 阪 支 店 〒541-0048 大阪市中央区瓦町3-4-7 KCビル8階
TEL: (06) 6231-6241 FAX: (06) 6222-3295
E-mail: osaka-br@taiko-kk.com

北京駐在事務所・上海駐在事務所・韓国大晃

- Head Office & Factory 209-1 Shimotabuse, Tabuse-cho, Kumage-gun, Yamaguchi Pref. 742-1598 Japan
TEL: 81-820-52-3113~4 FAX: 81-820-53-1001 E-mail: business@taiko-kk.com
- Tokyo Branch 4th floor, Suidobashi MS Building, 3-4-9 Misaki-cho, Chiyoda-ku, Tokyo 101-0061 Japan
TEL: 81-3-3221-8551 FAX: 81-3-3221-8555 E-mail: tokyo-br@taiko-kk.com
- Osaka Branch 8th floor, KC Building, 3-4-7 Kawara-machi, Chuo-ku, Osaka 541-0048 Japan
TEL: 81-6-6231-6241 FAX: 81-6-6222-3295 E-mail: osaka-br@taiko-kk.com

Beijing Office・Shanghai Office・Taiko Korea



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