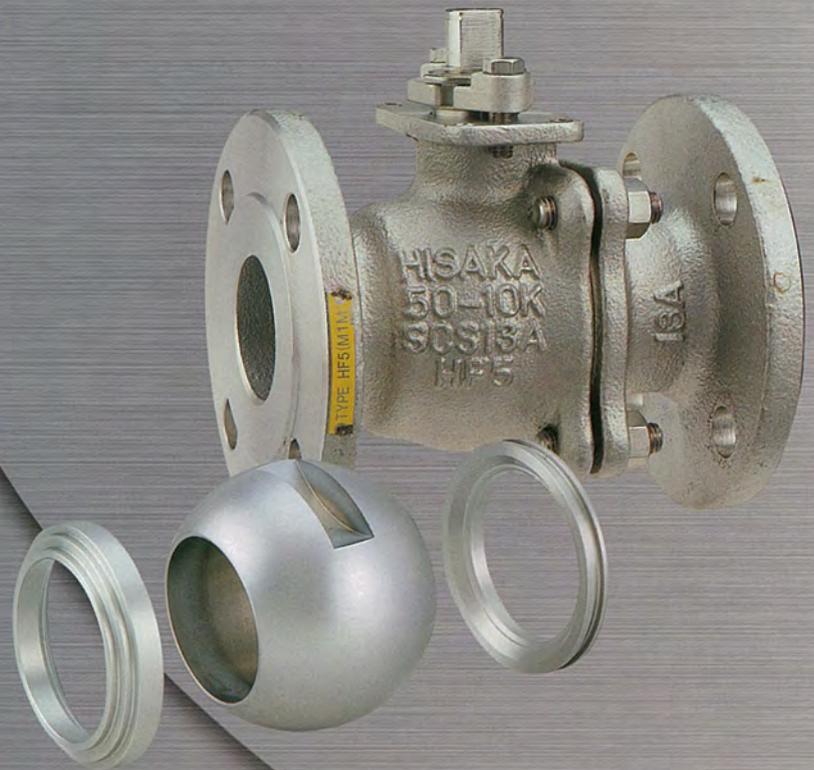


METAL TOUCH BALL VALVE



Workshop under authorization
by American Petroleum Institute
of the indication.

 HISAKA WORKS, LTD.

METAL TOUCH BALL VALVE

(BODY THICKNESS:ANSI B16.34 FACE TO FACE DIMENSION:ANSI B16.10)

HISAKA Metal touch ball valve is suitable for powder, slurry, high viscosity fluid, high temperature fluid. There are 4 kinds of hard facing treatment for ball and seat, their treatments suitable for many kinds environment and solve your trouble points.

Variation of Metal Touch Series

HF5(M1R)・HF5(M1M)・HF5(M1H)
 This HF5(M) series are separated 3 models according to the operation temperature. And each models has special Hard Facing Treatment, and special sealing materials. (details as following)
 The most of body parts for this series are common to the standard model HF5.
 Therefore maintenance work is too simple to replace new parts.

Seat Leakage

HF5(M1R) }
 HF5(M1M) } based on ANSI/FCI 70-2 CLASS V
 HF5(M1H) }

Hard Facing

This model has some kinds of hard facing treatment. And these treatments can be selected according to fluid condition.

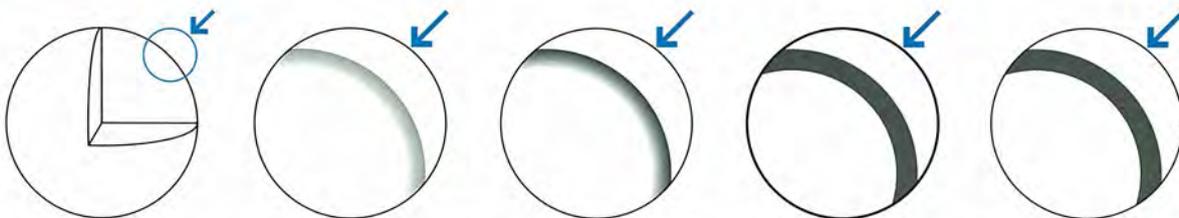
MODEL	TEMP. RANGE	HARD FACING	
		BALL	SEAT
HF5(M1R)	MAX. 200°C	TUFFTRIDE	STELLITE NO.6
HF5(M1M)	MAX. 350°C	NEW KANUC	
HF5(M1H)	MAX. 600°C	METCO-16C	
		STELLITE NO.12	

Wide Range Specification

- Severe Application Service**
 Metal seated ball valves are developed anti-corrosive and abrasive fluids such as slurries, pulp stocks, solid-fluids and every powders
 High temperature up to 600deg C. and high frequency operation are available. The suitable valve models are provided depending on working temperature.
- Fire Safe Design**
 Using expanded graphite on all packing, metal seated ball valves are fully satisfied with fire safe service.
- Longer Endurance**
 Due to hard-facing ball and seats, metal seats have no damages by any fluids and keep longer endurance than soft seated valves, also keep smooth operation on On-Off frequency
- Regulating Operation**
 The use of continuous half open/close operation is available, then suitable to use to flow control valve.
- Stable Torque**
 The spring loaded behind seat keeps stable torque and prevents from heavy torque on high temperature condition

Characteristic of each Hard Facing

	Tuffride	New Kanuc	Metco-16C	Stellite No.12
Treatment	Nitride	Nitrided by Vacuum Gas	Melt Spray(Ni)	Melt Spray(Co)
Temp Range	~350°C	~350°C	~600°C(non-oxidation atmosphere)	~600°C(non-oxidation atmosphere)
Facing Thickness	20~30µm	20~30µm	0.75mm	0.75µm
Hardness	Hv1200	Hv1200~1400	Hv655~738	Hv471
Notes	Standard of HF5(M1R/M)	HF5(M1R/M)	Standard of HF5(M1H) for High Corrosive & Abrasive Service	Special spec. for HF5(M1H) for High Corrosive Service



Tuffride :Nitride reacted and form the Nitride steel stratum. There is not possibility of exfoliation of stratum.
New Kanuc :Nitride reacted in vacuum gas condition and form the Nitride Chrome stratum.
Metco 16C :Melting Sprayed Nickel Basis Alloy to the surface of ball. For High Corrosive & Abrasive service.
Stellite No.12:Melting Sprayed Cobalt Basis Alloy to the surface of ball. For High Corrosive Service. In the case of impossible to use Nickel Basis Alloy.

*There are special Hard Facing treatments besides the above. It is possible to select according to the fluid & operation condition.

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		METCO-16C	
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4. Regulating Operation

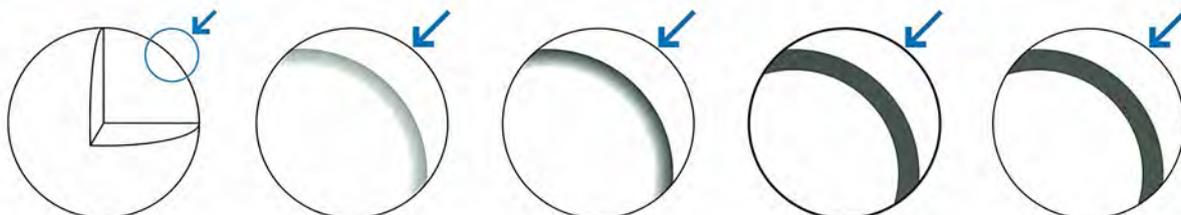
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Hardness	Hv1200	Hv1200~1400	Hv655~738	Hv471
Notes	Standard of HF5(M1R/M)	HF5(M1R/M)	Standard of HF5(M1H) for High Corrosive & Abrasive Service	Special spec. for HF5(M1H) for High Corrosive Service



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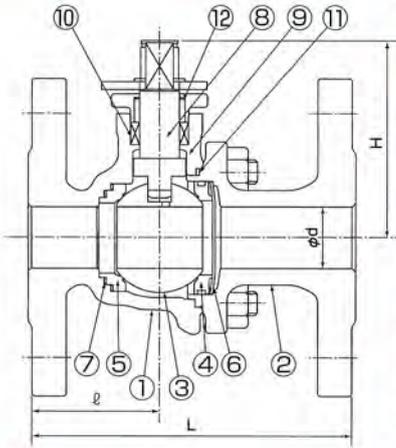
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MANUAL OPERATED HF5(M1R)·HF5(M1M)·HF5(M1H)

MANUAL OPERATE JIS10K SCS HF5(M1M)

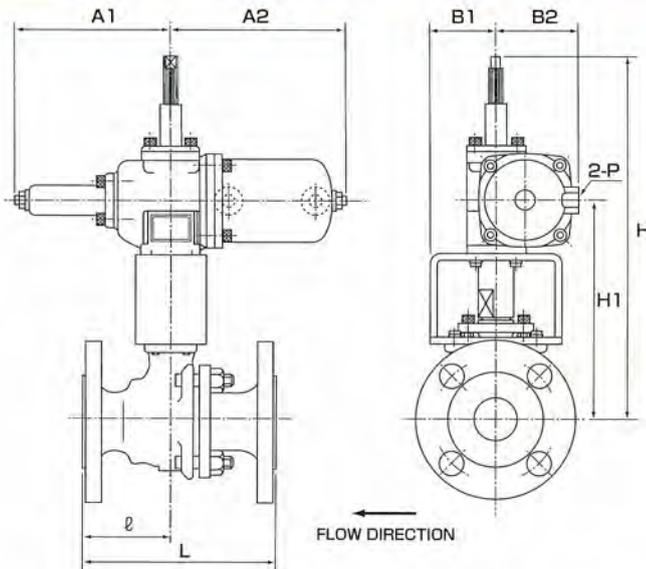


Size	d	L	H	ℓ	☆
15A	13	108	75	42	120
20A	19	117	78	47	120
25A	25	127	102	51	150
40A	38	165	110	75	200
50A	51	178	112	82	250
65A	64	190	136	84	300
80A	76	203	154	90	350
100A	102	229	177	110	400
125A	127	320	290	160	1000
150A	152	394	310	197	1500
200A	203	457		228	W.GEAR

☆LENGTH OF LEVER

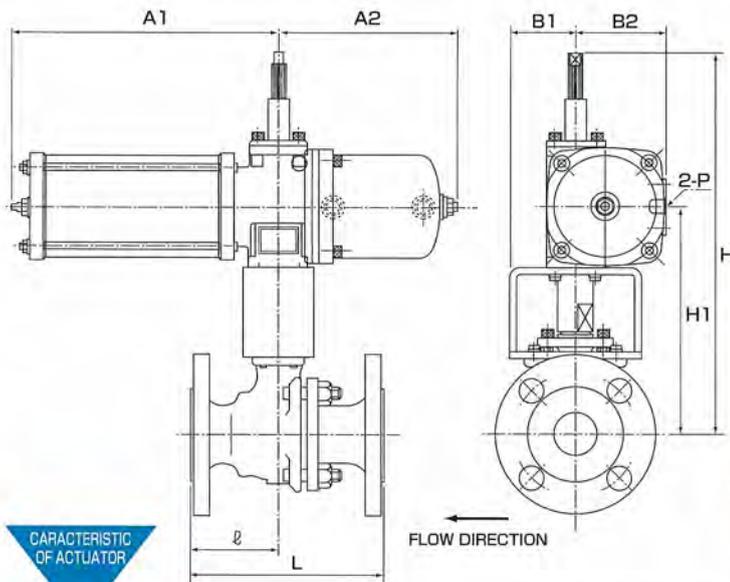
No.	Parts name	The No.	MATERIAL			Reference Column
1	BODY	1	SCS13A ASTMCF8	SCS14A ASTMCF8M	SCS16A ASTMCF3M	
2	BODY CAP	1	SCS13A ASTMCF8	SCS14A ASTMCF8M	SCS16A ASTMCF3M	
3	BALL	1	SUS304 AISI304	SUS316 AISI316	SUS316L AISI316L	HARD FACING
4	BALL SEAT (A)	1	SUS304 AISI304	SUS316 AISI316	SUS316L AISI316L	HARD FACING
5	BALL SEAT (B)	1	SUS304 AISI304	SUS316 AISI316	SUS316L AISI316L	HARD FACING
6	LORD SPRING	1	SUS304 AISI304	SUS316 AISI316	INCONEL	
7	SEAT GASKET	1	EXPANSION GRAPHITE			
8	STEM	1	SUS304 AISI304	SUS316 AISI316	SUS316L AISI316L	
9	STEM BEARING	1	CARBON			
10	GRAND PACKING	1 SET	EXPANSION GRAPHITE PACKING			
11	GASKET	1 SET	EXPANSION GRAPHITE			
12	GRAND BEARING	1	CARBON			

PNEUMATIC OPERATED HF5(M1)-TD·HF5(M1)-TS



with DOUBLE ACTING CYLINDER JIS10K SCS

Size	L	H	H1	A1	A2	B1	B2	P	ℓ	ACTUATOR SIZE
15A	108	257	134	134	151	52	70	RC (PT) 1/4	42	TD 2
20A	117	260	137	134	151	52	70		47	TD 2
25A	127	269	146	134	151	52	70		51	TD 2
40A	165	319	187	171	200	70	87		75	TD 3
50A	178	368	217	224	257	74	112	TD 4	82	
65A	190	393	242	224	257	74	112		84	
80A	203	481	302	272	315	84	149	TD 5	90	
100A	229	500	321	272	315	88	149		110	
125A	320	623	421	338	372	125	188	TD 6	180	
150A	394	643	441	338	372	125	188		187	
200A	457	770	546	426	478	105	225	RC(PT) 3/4	228	TD 7



with SINGLE ACTING CYLINDER JIS10K SCS

Size	L	H	H1	A1	A2	B1	B2	P	ℓ	ACTUATOR SIZE
15A	108	274	141	231	154	52	82	RC (PT) 1/4	42	TS 2
20A	117	277	144	231	154	52	82		47	TS 2
25A	127	286	153	231	154	52	82		51	TS 2
40A	165	345	199	320	197	70	102		75	TS 3
50A	178	411	237	436	265	74	135	TS 4	82	
65A	190	436	262	436	265	74	135		84	
80A	203	535	329	567	329	84	184	TD 5	90	
100A	229	554	348	567	329	88	184		110	
125A	320	711	465	657	393	125	233	TD 6	160	
150A	394	731	485	657	393	125	233		197	
200A	457	762	538	862	515	144	304	RC(PT) 3/4	228	TS 7

- Water Proof Construction (for prevent invasion rain water)
- Output Characteristic Equal with Valve Torque Curve
- Un-necessary for a Lubricater.

- Operation Press. :0.39MPa. Max.Press. :0.68MPa
- It is Possible to Assemble Many kinds of Accessories.

 **HISAKA WORKS, LTD.**
VALVE DIVISION

2-5-27, Nonaka-kita, Yodogawa-ku,
Osaka 532-0034, JAPAN
TEL:81-6-6391-8940 FAX:81-6-6391-8941
<http://www.hisaka.co.jp/>
e-mail:valve@hisaka.co.jp
Printed in Japan