

Sr.No.	Description	Quantity Required
1	PV-TR201, Guided Globe Control Valve, Size: 3/4" x 3/4" # 150 with pneumatic Actuator and accessories	1
3	TV-HX CM-203, Butterfly Control Valve, Size: 3" x 3" #150 with pneumatic actuator and accessories	1
4	TV-HX101B, Butterfly Control Valve, Size:5" x 5" #150 with pneumatic actuator and accessories.	1
5	TV-HX204, Butterfly Control Valve, Size:8" x 8" #150 with pneumatic actuator with and accessories.	1
6	E3-TR207, Double acting ON/OFF Valve, Size: 6" x 6" #150, with pneumatic actuator and accessories.	1
7	E*2-EH, Butterfly ON/OFF Valve, Size: 4" x 4" #300, with pneumatic actuator and accessories.	1

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Specifications for Top Guided Globe control valve

TAG NO. PV-TR 201

QUANTITY: 01

BODY SPECIFICATION

SIZE : 3/4" x 3/4"
RATING : ANSI 150

CONN : RF (SMOOTH)
TRIM FORM : UN- BALANCE
CHARACT : Linear
BONNET : ST'D (DUST/SAND PROOF)
MO. POS. : S (STANDARD) TYPE
ACTION : AIR TO Open / AIR FAIL Close
BODY TRIM : SUS316
TRIM T. : H. Cr PLATED
SEAT : SUS316L
SEAT T. : TFE INSERT
PACKING : GLAND (TV-P. TFE) / GASKET (T9090)

FLANGE TO **184 MM**
FLANGE DISTANCE:

ACTUATOR SPECIFICATION

MODEL : PNEUMATIC DIAPHRAGM
SIZE : $\Phi 240$ or Equivalent
ACTION : S. RTN/ RA (PRES. TO STEM UP)
RE.ACT : 2.2(0.6~1.1) Kg/cm²
STROKE : 12MM

ACCESSORIES

AIR SET : PRF 304
Positioner : Electro Pneumatic type, Input 4-20 mA DC

AIR REGULATOR WITH FILTER (INTEGRAL)

MAX. WORKING PRESSURE: 10 Bar
SET PRESSURE RANGE: 0.5 – 6.0 Bar
INLET/ OUTLET CONNECTION: 1/4" NPT
FILTER ELEMENT: BRASS
FILTER BOWL: METALLIC
DRAIN: MANUAL

ACCESSORIES

PRESSURE GAUGE
MOUNTING BRACKET

FLUID SPECIFICATION

FLUID : HUMID GAS

Ambient Temp. 0-55 °C

	UNIT	NORMAL	MAXIMUM
FLOW RATE	M ³ /MIN	.20	.80
P1	KG/cm ²	20.40	25.00
ΔP		8.10	8.10
SHUT OFF	G	13.00	
TEMP.	°C	32.00	50.00
Sp. Gr.		34.380	34.380

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Specifications for Butterfly control valve

TAG NO. TV-HX CM203

QUANTITY: 01

BODY SPECIFICATION

SIZE : 3x3
RATING : ANSI 150

CONN : WAFER (SMOOTH)
TRIM FORM : CONCENTRIC
CHARACT : THROTTLING
BONNET : ST'D (DUST/SAND PROOF)
MO. POS. : S (STANDARD) TYPE
ACTION : AIR TO CLOSE / AIR FAIL OPEN
BODY TRIM : SCPH2 / SUS316 / SUS630
TRIM T. : H. Cr PLATED
BEARING : SUS316 / H. Cr PLATED
SEAT : SUS316
SEAT T. : NONE
PACKING : GLAND - GASKET
P4513+4513L V1500AC

ACTUATOR SPECIFICATION

MODEL : PNEUMATIC DIAPHRAGM
SIZE : $\Phi 240$ or Equivalent
ACTION : S. RTN/ DA (PRES. TO CLOSE) Air fail Open.
RE.ACT : 2.4(0.6~1.8) Kgf/cm²
R. ANGLE : 60 DEG

ACCESSORIES

AIR SET : PRF 304
Positioner : Electro Pneumatic type, Input 4-20 mA DC

AIR REGULATOR WITH FILTER (INTEGRAL)

MAX. WORKING PRESSURE: 10 Bar
SET PRESSURE RANGE: 0.5 – 6.0 Bar
INLET/ OUTLET CONNECTION: 1/4" NPT
FILTER ELEMENT: BRASS
FILTER BOWL: METALLIC
DRAIN: MANUAL

ACCESSORIES

PRESSURE GAUGE
MOUNTING BRACKET

FLUID SPECIFICATION

FLUID : COOLING WATER

Ambient Temp. 0-55 °C

	UNIT	NORMAL	MAXIMUM
FLOW RATE	L/MIN	1,475.00	2,070.00
P1	KG/cm ²	5.00	5.00
ΔP		1.4	1.4
SHUT OFF	G	2.5	
TEMP.	°C	25.00	35.00
Sp. Gr.		1.00	1.00
	VALVE	CAL.	CAL.
CV VALVE	230	87.6	122.6

NOTE: i. Valve body drawing is attached
ii. All dimension of butterfly should be according to Drawing.

TV-HX CM-203

Specifications for Butterfly control valve

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TAG NO. TV-HX 101B

QUANTITY: 01

BODY SPECIFICATION

SIZE : 5"x5"
RATING : ANSI 150

CONN : WAFER (SMOOTH)
TRIM FORM : CONCENTRIC
CHARACT : THROTTLING
BONNET : ST'D (DUST/SAND PROOF)
MO. POS. : S (STANDARD) TYPE
ACTION : AIR TO CLOSE / AIR FAIL OPEN
BODY TRIM : SCPH2 / SUS316
TRIM T. : H. Cr PLATED
BEARING : SUS316 / H. Cr PLATED
SEAT : SUS316
PACKING : GLAND - GASKET
P4513+4513L V1500AC

ACTUATOR SPECIFICATION

MODEL : PNEUMATIC DIAPHRAGM
SIZE : $\Phi 400$ or Equivalent
ACTION : S. RTN/ DA (PRES. TO CWISE)
RE.ACT : 2.4(0.6~1.8) Kgf/cm²
R. ANGLE : 60 DEG

ACCESSORIES

AIR SET : PRF 304
Positioner : Electro Pneumatic type, Input 4-20 mA DC

AIR REGULATOR WITH FILTER (INTEGRAL)

MAX. WORKING PRESSURE: 10 Bar
SET PRESSURE RANGE: 0.5 - 6.0 Bar
INLET/ OUTLET CONNECTION: 1/4" NPT
FILTER ELEMENT: BRASS
FILTER BOWL: METALLIC
DRAIN: MANUAL

ACCESSORIES

PRESSURE GAUGE
MOUNTING BRACKET

FLUID SPECIFICATION

FLUID : COOLING WATER

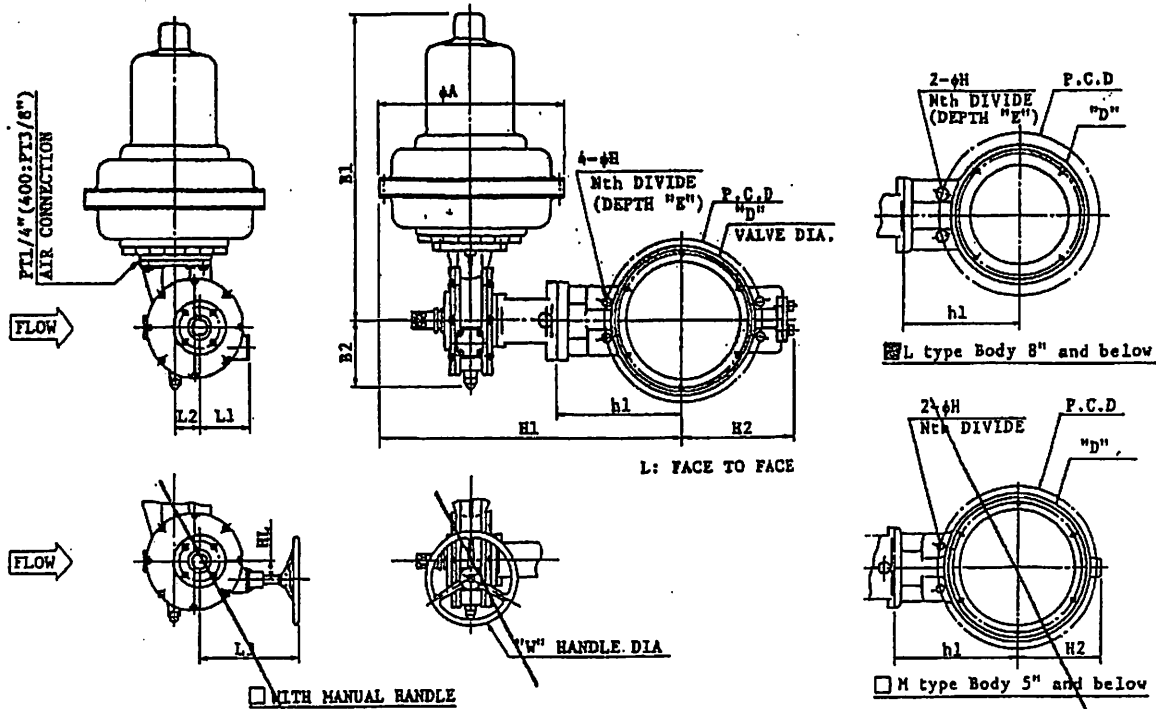
Ambient Temp. 0-55 °C

	UNIT	NORMAL	MAXIMUM
FLOW RATE	L/MIN	3715.00	5,200.00
P1	KG/cm ²	5.00	5.00
ΔP		1.4	1.4
SHUT OFF	G	2.5	
TEMP.	°C	25.00	35.00
Sp. Gr.		1.00	1.00
	VALVE	CAL.	CAL.
CV VALVE	360	220	307

NOTE: i. Valve body drawing is attached
ii. All dimension of butterfly should be according to Drawing.

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TV-HX101B



DIMENSIONS

UNIT : mm

VALVE SIZE CODE NO.		L type Body ☐ JIS10K ☒ ANSI 150 ^o					M type Body ☐ JIS20K ☐ ANSI 300 ^o										☐ WITH MANUAL HANDLE			ACTUATOR SIZE	
		L	h1	H2	D	H1	L	h1	H2	D	H1						B1	B2	L1	L2	W
03	☐ 3" (80A)	46	137	-	133	420	64	162	120	135	-	400	80	70	32	200	225	25	☐ 240	5124	
						455					485	510	100	85	42	300	270	33	☐ 280	5128	
						505					535	625	130	105	55	400	330	43	☐ 330	5133	
						-					590	730	175	130	72	500	400	56	☐ 400	5140	
04	☐ 4" (100A)	52	160	-	155	440	64	172	130	160	-	400	80	70	32	200	225	25	☐ 240	5124	
						475					495	510	100	85	42	300	270	33	☐ 280	5128	
						525					545	625	130	105	55	400	330	43	☐ 330	5133	
						-					600	730	175	130	72	500	400	56	☐ 400	5140	
05	☒ 5" (125A)	56	170	-	187	490	70	220	140	195	565	510	100	85	42	300	270	33	☐ 280	5128	
						540					615	625	130	105	55	400	330	43	☐ 330	5133	
						600					680	730	175	130	72	500	400	56	☒ 400	5140	
						-					-	-	-	-	-	-	-	-	-	-	-
06	☐ 6" (150A)	56	185	-	216	505	76	230	205	230	575	510	100	85	42	300	270	33	☐ 280	5128	
						555					625	625	130	105	55	400	330	43	☐ 330	5133	
						615					690	730	175	130	72	500	400	56	☐ 400	5140	
						-					-	-	-	-	-	-	-	-	-	-	-
08	☐ 8" (200A)	60	220	-	266	615	89	290	255	275	700	625	130	105	55	400	330	43	☐ 330	5133	
						680					760	730	175	130	72	500	400	56	☐ 400	5140	
10	☐ 10" (250A)	68	280	235	330	740	114	306	270	350	775	730	175	130	72	500	400	56	☐ 400	5140	
						-					-	-	-	-	-	-	-	-	-	-	-
12	☐ 12" (300A)	78	320	280	375	790	114	410	370	400	895	730	175	130	72	500	400	56	☐ 400	5140	
						-					-	-	-	-	-	-	-	-	-	-	-

JIS10K

SIZE	P.C.D	N	H	E
□ 3"	150	8	19	
□ 4"	175	8	19	
□ 5"	210	8	23	
□ 6"	240	8	23	
□ 8"	290	12	23	
□ 10"	355	12	25	
□ 12"	400	16	25	

JIS20K

SIZE	P.C.D	N	H	E
□ 3"	160	8	23	
□ 4"	185	8	23	
□ 5"	225	8	25	
□ 6"	260	12	M22	20
□ 8"	305	12	M22	28
□ 10"	380	12	27	
□ 12"	430	16	M24	30

ANSI CLASS 150

SIZE	P.C.D	N	H	E
□ 3"				
□ 4"	190.5	8	19	
□ 5"	215.9	8	22	
□ 6"	241.3	8	22	
□ 8"	298.4	8	22	
□ 10"	362	12	25	
□ 12"	431.8	12	25	

ANSI CLASS 300

SIZE	P.C.D	N	H	E
□ 3"	168.1	8	22	
□ 4"	200.2	8	22	
□ 5"	235	8	22	
□ 6"	269.7	12	22	
□ 8"	330.2	12	25	
□ 10"	387.4	16	UNC1	24
□ 12"	450.8	16	1-1/8-BUN	28

Specifications for Butterfly control valve

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TAG NO. TV-HX 204

QUANTITY: 01

BODY SPECIFICATION

SIZE : 8"x8"
RATING : ANSI 150

CONN : WAFER (SMOOTH)
TRIM FORM : CONCENTRIC
CHARACT : THROTTLING
BONNET : ST'D (DUST/SAND PROOF)
MO. POS. : S (STANDARD) TYPE
ACTION : AIR TO CLOSE / AIR FAIL OPEN
BODY TRIM : SCPH2 / SUS316
TRIM T. : H. Cr PLATED
BEARING : SUS316 / H. Cr PLATED
SEAT : SUS316
PACKING : GLAND - GASKET
P4513+4513L V1500AC

ACTUATOR SPECIFICATION

MODEL : PNEUMATIC DIAPHRAGM
SIZE : $\Phi 330$ or Equivalent
ACTION : S. RTN/ DA (PRES. TO CWISE)
RE.ACT : 2.4(0.6~1.8) Kg/cm²
R. ANGLE : 60 DEG

ACCESSORIES

AIR SET : PRF 304
Positioner : Electro Pneumatic type, Input 4-20 mA DC

AIR REGULATOR WITH FILTER (INTEGRAL)

MAX. WORKING PRESSURE: 10 Bar
SET PRESSURE RANGE: 0.5 – 6.0 Bar
INLET/ OUTLET CONNECTION: 1/4" NPT
FILTER ELEMENT: BRASS
FILTER BOWL: METALLIC
DRAIN: MANUAL

ACCESSORIES

PRESSURE GAUGE
MOUNTING BRACKET

FLUID SPECIFICATION

FLUID : COOLING WATER

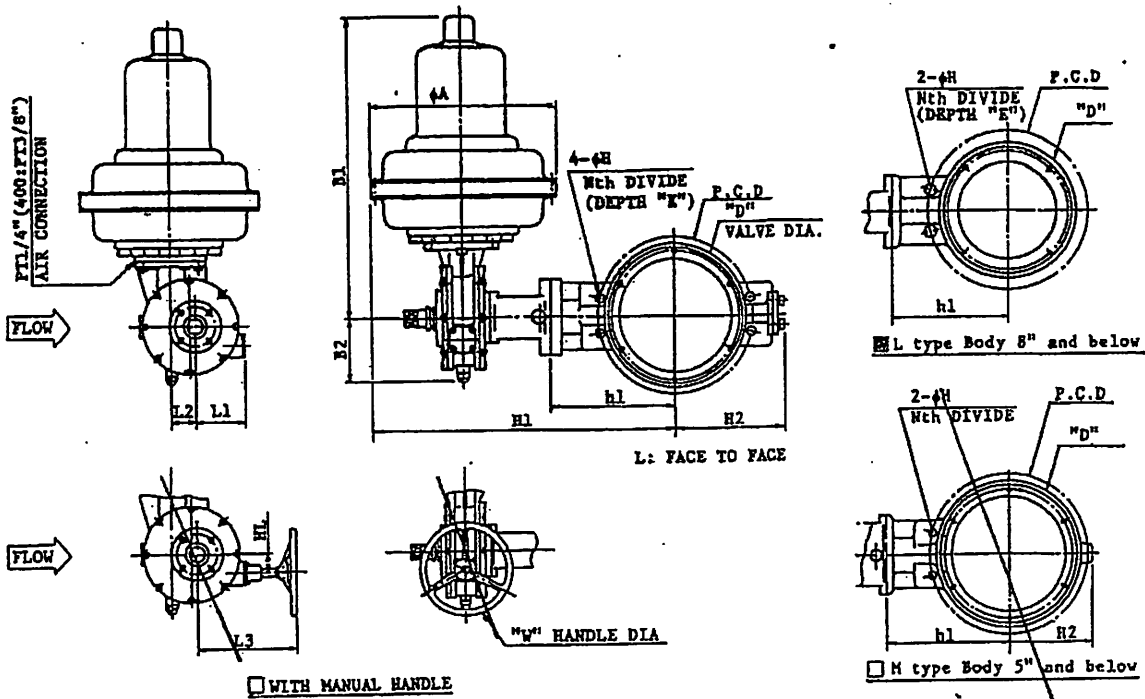
Ambient Temp. 0-55 °C

	UNIT	NORMAL	MAXIMUM
FLOW RATE	L/MIN	8900.00	12,480.00
P1	KG/cm ²	5.00	5.00
ΔP		1.4	1.4
SHUT OFF	G	2.5	
TEMP.	°C	25.00	35.00
Sp. Gr.		1.00	1.00
	VALVE	CAL.	CAL.
CV VALVE	1120	527	738

NOTE: i. Valve body drawing is attached
ii. All dimension of butterfly should be according to Drawing.

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-HX204



DIMENSIONS

UNIT : mm

DIMENSIONS

VALVE SIZE CODE NO.		L type Body ☐ JIS10K ☒ ANSI 150 ^o					H type Body ☐ JIS20K ☐ ANSI 300 ^o					☐ WITH MANUAL HANDLE										ACTUATOR SIZE CODE NO.	
		L	h1	H2	D	H1	L	h1	H2	D	H1	B1	B2	L1	L2	W	L3	HL	HA				
03	☐ 3" (80A)	46	137	-	133	420	64	162	120	135	-	400	80	70	32	200	225	25	☐ 240	5124			
						485					510	100	85	42	300	270	33	☐ 280	5128				
						535					625	130	105	55	400	330	43	☐ 330	5133				
						590					730	175	130	72	500	400	56	☐ 400	5140				
						-					400	80	70	32	200	225	25	☐ 240	5124				
04	☐ 4" (100A)	52	160	-	155	440	64	172	130	160	495	510	100	85	42	300	270	33	☐ 280	5128			
						475					545	625	130	105	55	400	330	43	☐ 330	5133			
						525					600	730	175	130	72	500	400	56	☐ 400	5140			
						-					565	510	100	85	42	300	270	33	☐ 280	5128			
						490					615	625	130	105	55	400	330	43	☐ 330	5133			
05	☐ 5" (125A)	56	170	-	187	540	70	220	140	195	680	730	175	130	72	500	400	56	☐ 400	5140			
						600					575	510	100	85	42	300	270	33	☐ 280	5128			
						505					625	625	130	105	55	400	330	43	☐ 330	5133			
						555					690	730	175	130	72	500	400	56	☐ 400	5140			
						615					700	625	130	105	55	400	330	43	☐ 330	5133			
06	☐ 6" (150A)	56	185	-	216	505	76	230	205	230	625	510	100	85	42	300	270	33	☐ 280	5128			
						555					625	625	130	105	55	400	330	43	☐ 330	5133			
						615					690	730	175	130	72	500	400	56	☐ 400	5140			
						700					625	130	105	55	400	330	43	☐ 330	5133				
						760					730	175	130	72	500	400	56	☐ 400	5140				
08	☒ 8" (200A)	60	220	-	266	615	89	290	255	275	775	730	175	130	72	500	400	56	☐ 400	5140			
						680					760	730	175	130	72	500	400	56	☒ 400	5140			
						505					625	625	130	105	55	400	330	43	☐ 330	5133			
						555					690	730	175	130	72	500	400	56	☐ 400	5140			
						615					760	730	175	130	72	500	400	56	☐ 400	5140			
10	☐ 10" (250A)	68	280	235	330	740	114	306	270	350	775	730	175	130	72	500	400	56	☐ 400	5140			
						740					775	730	175	130	72	500	400	56	☐ 400	5140			
						505					625	625	130	105	55	400	330	43	☐ 330	5133			
						555					690	730	175	130	72	500	400	56	☐ 400	5140			
						615					760	730	175	130	72	500	400	56	☐ 400	5140			
12	☐ 12" (300A)	78	320	280	375	790	114	410	370	400	895	730	175	130	72	500	400	56	☐ 400	5140			
						790					895	730	175	130	72	500	400	56	☐ 400	5140			
						505					625	625	130	105	55	400	330	43	☐ 330	5133			
						555					690	730	175	130	72	500	400	56	☐ 400	5140			
						615					760	730	175	130	72	500	400	56	☐ 400	5140			

JIS10K

SIZE	P.C.D	N	H	E
□ 3"	150	8	19	
□ 4"	175	8	19	
□ 5"	210	8	23	
□ 6"	240	8	23	
□ 8"	290	12	23	
□ 10"	355	12	25	
□ 12"	400	16	25	

JIS20K

SIZE	P.C.D	N	H	E
□ 3"	160	8	23	
□ 4"	185	8	23	
□ 5"	225	8	25	
□ 6"	260	12	M22	20
□ 8"	305	12	M22	28
□ 10"	380	12	27	
□ 12"	430	16	M24	30

ANSI CLASS 150

SIZE	P.C.D	N	H	E
□ 3"				
□ 4"	190.5	8	19	
□ 5"	215.9	8	22	
□ 6"	241.3	8	22	
□ 8"	298.4	8	22	
□ 10"	362	12	25	
□ 12"	431.8	12	25	

ANSI CLASS 300

SIZE	P.C.D	N	H	E
□ 3"	168.1	8	22	
□ 4"	200.2	8	22	
□ 5"	235	8	22	
□ 6"	269.7	12	27	
□ 8"	330.2	12	25	
□ 10"	387.4	16	UNC1	24
□ 12"	450.8	16	1-1/8-BUN	28

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Specifications for Double Acting ON/OFF Valve

TAG NO. E3-TR207

QUANTITY: 01

BODY SPECIFICATION

SIZE : 6" x 6"
RATING : ANSI 150
CONN : RF (SMOOTH)
TRIM FORM : UN- BALANCE
CHARACT : ON/OFF
BONNET : ST'D (DUST/SAND PROOF)
ACTION : AIR TO Open / AIR FAIL Close
BODY TRIM : SUS316
TRIM T. : H. Cr PLATED
SEAT : SUS316L
PACKING : GLAND (Graphite)
FLANGE TO : **407 MM**
FLANGE DISTANCE:

ACTUATOR SPECIFICATION

MODEL : Double acting cylinder type
SIZE : $\Phi 240$ or Equivalent
ACTION : S. RTN/ RA (PRES. TO STEM UP)
RE.ACT : 4.0(2~6) Kgf/cm²
Type : Globe

ACCESSORIES

AIR SET : SS316
Solenoid : Elect. Pneumatic Double acting, with 24 VDC supply
Protection Class: EExd ia IIC T4

AIR REGULATOR WITH FILTER (INTEGRAL)

MAX. WORKING PRESSURE: 10 Bar
SET PRESSURE RANGE: 0.5 – 6.0 Bar
INLET/ OUTLET CONNECTION: 1/4" NPT
FILTER ELEMENT: BRASS
FILTER BOWL: METALLIC
DRAIN: MANUAL

ACCESSORIES

PRESSURE GAUGE
MOUNTING BRACKET

FLUID SPECIFICATION

FLUID. : Steam

Ambient Temp. 0-55 °C

	UNIT	NORMAL	MAXIMUM
FLOW RATE	Kg/min	50.00	180.00
P1	KG/min	40.50	100.00
TEMP.	°C	148.00	200.00

Note:

- I. C&F value may also be mentioned in quotation.
- II. Technical literature for calibration/maintenance in English is required.
- III. On-site inspection at Manufacturer premises should be included in quotation.
- IV. Material test certificate, pressure test certificate of valve body at 40 Bar and warranty Certificate is required.
- V. Recommended maintenance schedule [Preventive (PM), Predictive (PDM,)] by vendor in English is required.

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SPECIFICATION OF BUTTERFLY ON/OFF VALVE

Tag:	E*2-EH
Quantity:	01 No.
<u>Butterfly Valve</u>	
Size:	4" x 4"
Pressure Class (Rating):	ANSI 300
Body Style:	Wafer
Seat Type:	Standard (Fire-Tite)
Body Material:	SS 316
Disc & Shaft Material:	316SS Disc, 17-4PH Shaft
Seat & Seal Material:	PTFE/ Stainless Steel Seat, graphite Seal

Pneumatic Actuator with manual Hand Wheel for Locking/Un-Locking:

Type:	Quadra-Power, Diaphragm, spring return
Actuator Spring Direction:	Spring to Close

<u>Solenoid:</u>	3 way Standard
Hazardous Area Calcification:	EExd IIC T4
Solenoid Port Size:	1/4" NPT
Solenoid Voltage:	24VDC

Limit Switch Box:

Switches:	04 No. SPDT Mechanical Switches in Box
Hazardous Area Calcification:	EExd IIC T4
Ingress Protection:	NEMA 4X
Electrical rating:	10 Amp. @ 125/250 VAC

Air Filter Pressure Regulator:

Max. Working Pressure:	10 Bar
Set Pressure Range:	0.5 – 6.0 Bar
Inlet/ Outlet Connections:	1/4" NPT
Filter Element:	Brass
Filter Bowl:	Metallic
Drain:	Manual

Accessories:

Pressure Gauge
Mounting Bracket

Note:

1. All wetted part must compliance with NACE MR-01-03
2. Technical literature, maintenance & installation manuals are required in English.
3. On-site inspection should be included in quotation.
5. C&F value may be mentioned in quotation.