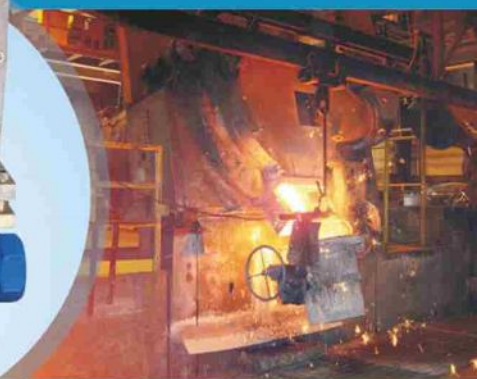


2/2 Way Motorized Globe Valves for Fuel Oil / LPG & Air Application

1254 SERIES

1754 SERIES

COMBUSTION SERIES



YES. WE CARE...
| Courteously | Attentively | Respectably | Effectively |

SUDE
An ISO 9001:2008 Certified Company

COMBUSTION SERIES

2/2 Way Motorized Globe Valves for Fuel Oil / LPG & Air Application

Index

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2/2 Way **Motorized Globe Valves**

for Fuel Oil / LPG and General Application : on-off and control duty.

SUDE

This versatile valve is unique combination of Globe Valve with Electric Actuator. Strongly recommended for low cost, and reliable operation.

SPECIFICATIONS

Sizes	: 15mm (1/2"), 20mm (3/4"), 25mm (1").
Pressure	: 10 Bar
Temperature	: 120°C
Pressure Rating	: Body-ANSI, Class 150.
Stem Packing	: Teflon.
End Connections	: Screwed (B.S.P).
Body Material	: Cast Bronze.
Seating	: Metal to Metal, Low leakage type
Leakage Class	: As per ANSI-B16-104, 1976 for tight shut off please use 1/2" direct acting solenoid valve at the inlet side of the Globe Valve.
Characteristic	: On-off or linear.
Electrical Supply	: 24/230 Volts A.C. alternatively 110 V AC. Actuator can Be used with on-off, proportional modulating control Through PID Controller / Pressure Transmitter / Flow Transmitter
Applications	: Generally used for combustion application for Air / LPG /Furnace Oil Application
Special Features	: This valve combined with Butterfly Valve can be used as a combination unit for simultaneous control of fuel and Air in the same proportion. Refer to our series COMB 1754/1254 For Actuator details-refer to SDTORK Literature Model No.1050 series. Supplied optionally with 500 ohms 1 Watt potentiometer/slide wire to be used for Feedback or Remote position indication.



Table-1

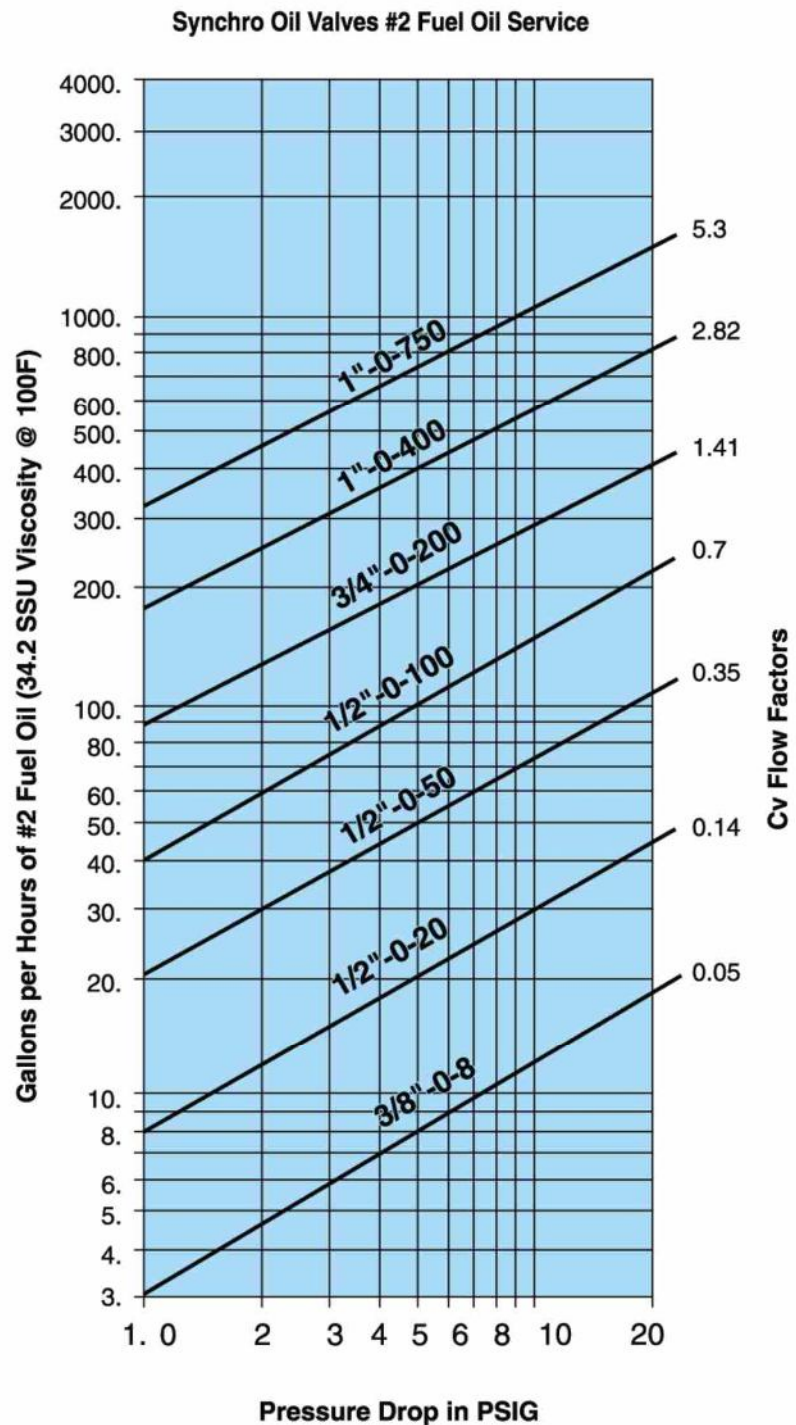
VALVE SIZE	MODEL NUMBER	W.P.	ORIFICE SIZE	Cv
15	1754/15/BZ/BSP/SD-1050	10	3	0.32
			6	1.4
			10	3.27
20	1754/20/BZ/BSP/SD-1050	10	12.5	5.03
			20	7.6
25	1754/25/BZ/BSP/SD-1050	10	20	7.6
			25	10.06

For example :

To size for 5 psi drop with a 50 gph flow of #6 pre heated to 140°F, the multiplier is "2". Equivalent flow of #2 oil is then 50x2 or 100 gph. Chart shows that a 5 psi drop will require use of a 1/2"-O-100 SYNCHRO Oil valve.

Oil valves are normally sized for approximately 5 psi pressure drop. For #2 oil service, see chart at right.

For preheated #5 or #6 oil, multiply the required flow rate in gph by the factor given in the table shown below the chart, then select a valve based upon that equivalent flow of #2 oil and its allowable pressure drop.



Oil Grade	#5		#6				
Temperature (0F) at Inlet	125	160	122	140	180	210	220
Factor	1.43	1.11	2.86	2	1.25	1.11	1.05

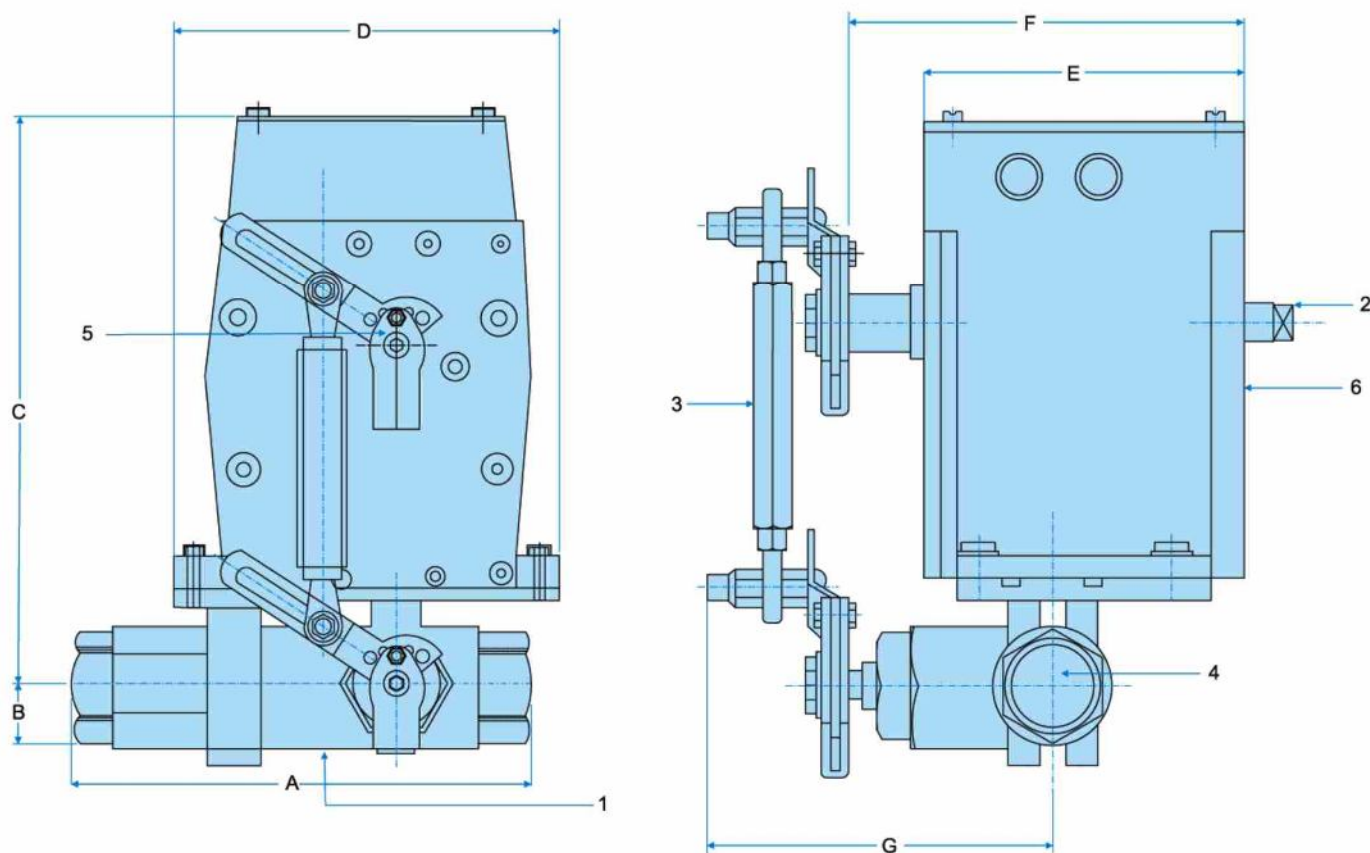
Note: The capacities and pressure drops indicated in this chart are based on flow through a wide-open valve. If valve is less than fully open, higher drops and lower flows will result.

2 Way Motorised Globe Valve

for Fuel Oil & General Application

SUDE

1754



PART LIST

S.No.	PARTS	MATERIAL
1	BODY	G.M.IS.318.Gr.2
2	SHAFT	BRASS.IS.319
3	LINKAGE	G.M.IS.318.Gr.2
4	PLUG	S.S.AISI.304
5	CAM	S.S.AISI.304
6	ELECTRIC ACTUATORS	SDTORK

VALVE SIZE	MODEL NUMBER	DIMENSIONS (MM)							ORIFICE SIZE (MM)	Cv	WT. OF ASSY IN KGS.
		A	B	C	D	E	F	G			
15	1754/15/BZ/BSP/SD-1050	182	35	230	142	148	208	106	3.51	0.32	7.4
									7.02	1.40	
									11.7	3.27	
20	1754/20/BZ/BSP/SD-1050	182	35	230	142	148	208	106	14.62	5.03	7.6
									23.40	7.60	
25	1754/25/BZ/BSP/SD-1050	182	35	230	142	148	208	106	23.40	7.60	7.8
									29.25	10.06	

2/2 Way **Motorized Butterfly Valves**

Screwed Ends, Low Leakage for Combustion Air.

SUDE

This unique combination of Low cost Butterfly valve with Electric Actuator is ideally suitable for use on Furnaces, Boilers, Ovens. This is also recommended for use on Air Drying Unit, Gas Firing Units, oil Burning Equipments

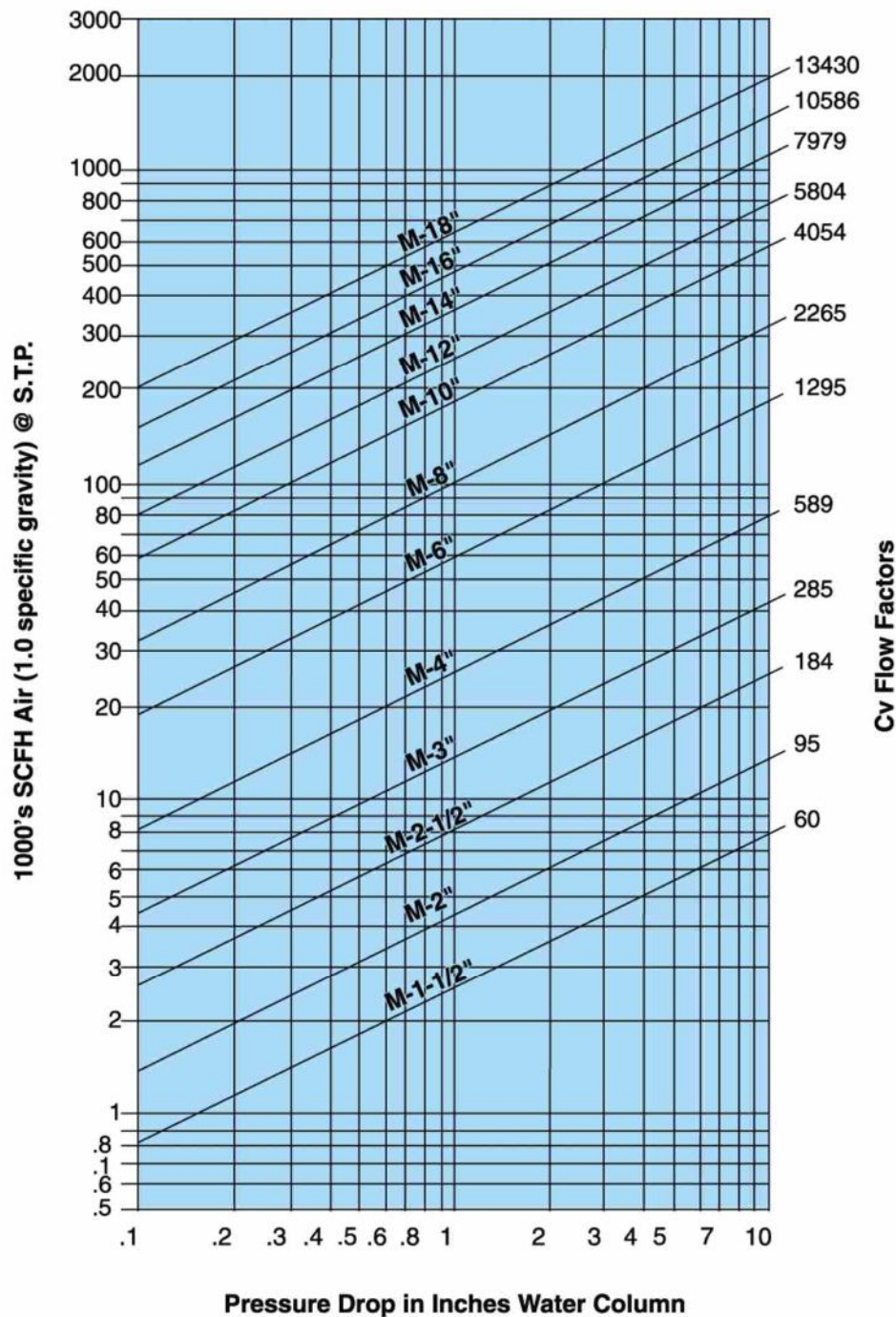
SPECIFICATIONS

Sizes	: 35mm (1½") to 150mm (6").
Pressure	: Refer table.
Temperature	: 80°C.
Pressure Rating	: Body-ANSI, Class 150.
Shaft Packing	: Nitrile.
End Connections	: Screwed 35mm to 100mm (B.S.P) except 150mm in Flanged ANSI Class 150. Available in Cast iron only.
Body Material	: Cast iron or Cast Bronze.
Seating	: Metal to Metal,
Leakage Class	: Low leakage, as per ANSI-B16-104, 1976
Characteristic	: On-off, Linear
Electrical Supply	: 24/230 Volts AC alternatively 110 V AC Actuator can be used with on-off, proportional modulating control Through PID Controller / Pressure Transmitter / Flow Transmitter
Applications	: In combustion equipment for providing control over air, Gas flow etc.
Special Features	: This valve combined with Butterfly Valve can be used as A combination unit for simultaneous control of fuel and Air in the same proportion. Refer to our series COMB 1754/1254 For Actuator details-refer to SDTORK literature Model No.1050 series. Supplied optionally with 500 ohms 1 Watt potentiometer/slide wire to be used for feedback or Remote position indication.



Table-2

VALVE SIZE	MODEL NO.	W.P.	Cv
35	1254/35/CI/BSP/SD-1050	300MM WC	70.2
50	1254/50/CI/BSP/SD-1050	300MM WC	128.7
65	1254/65/CI/BSP/SD-1050	300MM WC	201.16
80	1254/80/CI/BSP/SD-1050	300MM WC	290.16
100	1254/100/CI/BSP/SD-1050	300MM WC	514.8
150	1254/150/CI/BSP/SD-1050	300MM WC	1161.8

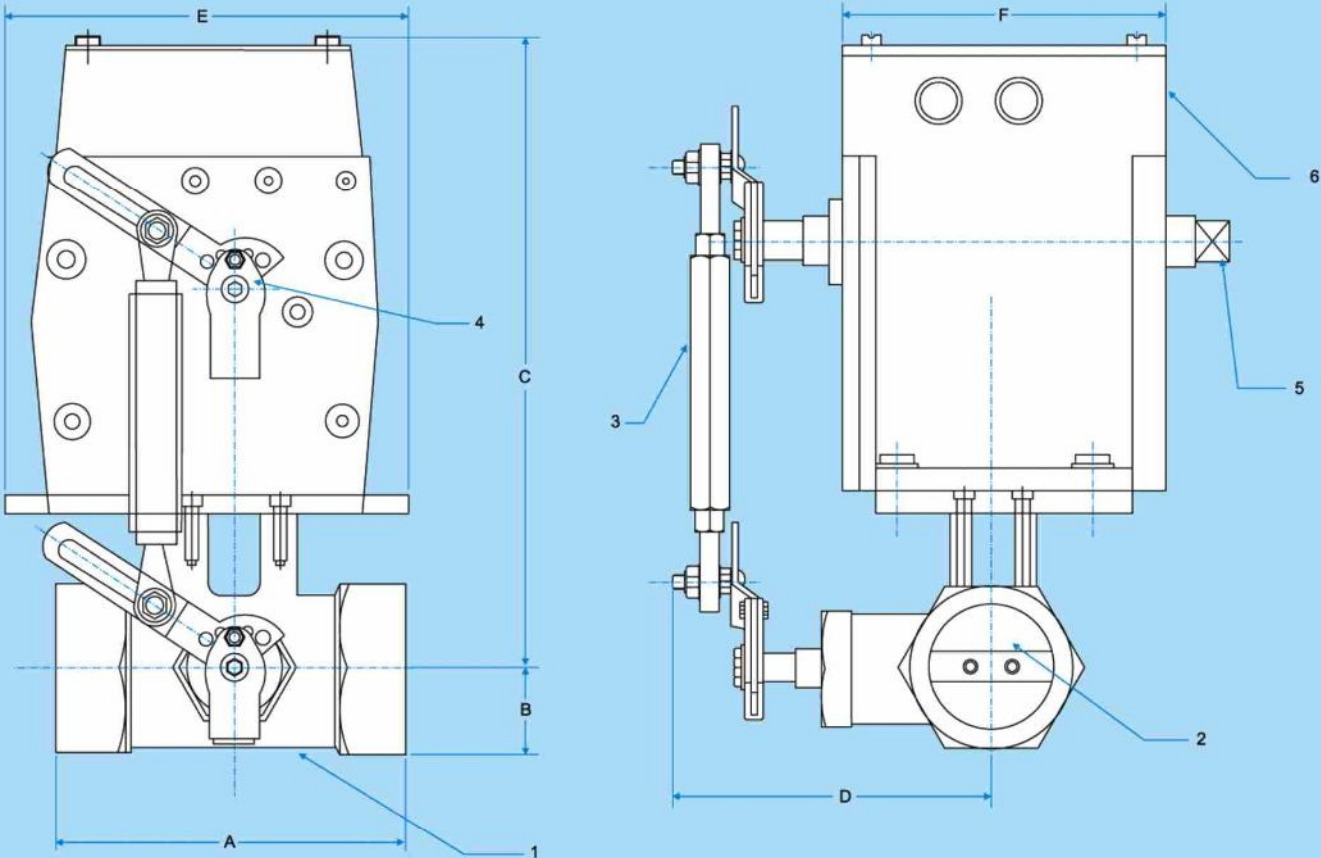


Flow Control Valves

Air valves are normally sized to match the combustion air pipe sizing. Pressure drops of 1" WC to 2.5" WC is typical. If supply pressures are higher than required, smaller valves can be used, or travel limited to restrict maximum flow rate.

Note: The capacities and pressure drops indicated in this chart are flow through a wide-open valve. If valve is less than fully open, higher drops and lower flows will result.

Standard Temperature and Pressure Defined at : (60°F and 14.7 PSIA and 15.6° and 760mm Hg)



PART LIST

S.No.	PARTS	MATERIAL
1	BODY	G.M.I.S.318.Gr.2
2	SHAFT	BRASS.I.S.319
3	LINKAGE	G.M.I.S.318.Gr.2
4	PLUG	S.S.AISI.304
5	CAM	S.S.AISI.304
6	ELECTRIC ACTUATORS	SDTORK



VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	Cv	WT. OF ASSY IN KGS.
35	1254/35/C/BSP/SD1050	133	29	245	110	142	148	70.2	7.2
50	1254/50/C/BSP/SD1050	133	35	250	125	142	148	128.7	7.8
65	1254/65/C/BSP/SD1050	133	46	256	134	142	148	201.24	8.5
80	1254/80/C/BSP/SD1050	143	54	270	154	142	148	290.16	10
100	1254/100/C/BSP/SD1050	159	65	286	160	142	148	514.8	11.2
150	1254/150/C/BSP/SD1050	178	159	354	198	142	148	1161.8	12

Combination Unit Consisting of

Globe Valves Type (1754) and Butterfly Valve (1254) with Electric Actuator **SUDE**

This is combination of 1754 and 1254 series valves; mounted on common platform and driven through single actuator. Actuator is connected to the valves by flexible linkage which can be further adjusted to suit individual requirements; such as continuous flow and low volume air in to combustion chamber with very low volume of out-going fuel into the furnace. This will keep combustion alive. This unit is strongly recommended for control of fuel and air through single actuator. Actuator can be suitably connected with choice of controllers having specific duty.

SPECIFICATIONS

Sizes	Fuel Line	: 15mm (1/2") to 25mm (1").
	Air Line	: 35mm (1 1/2") to 150mm (6").
Working Pressure		: Refer table.
Temperature		: GL - 120°C. BF - 80°C.
Pressure Rating		: Body-ANSI, Class 150.
Shaft Packing		: GL - Viton. BF - PTFE.
End Connections		: GL – Screwed BF – Up to 4" Screwed, 6" Flanged only, cast Iron Flange ANSI B. 16.5 Class-150.
Seating		: Metal to Metal.
Leakage		: GL – Refer 1754 series BF – Refer 1254 series
Characteristic		: GL – Linear BF – Modified Linear
Electrical Supply		: 24/230 Volts A.C. alternatively 110 V AC. Actuator can be used with on-off, proportional modulating control through PID Controller / Pressure Transmitter / Flow Transmitter
Applications		: In combustion equipment for providing control over air, Gas flow etc.
Special Features		: For Actuator details-refer to SDTORK literature Model No.1050 series. Supplied optionally with 500 ohms 1 Watt potentiometer/slide wire to be used for feedback or Remote position indication.



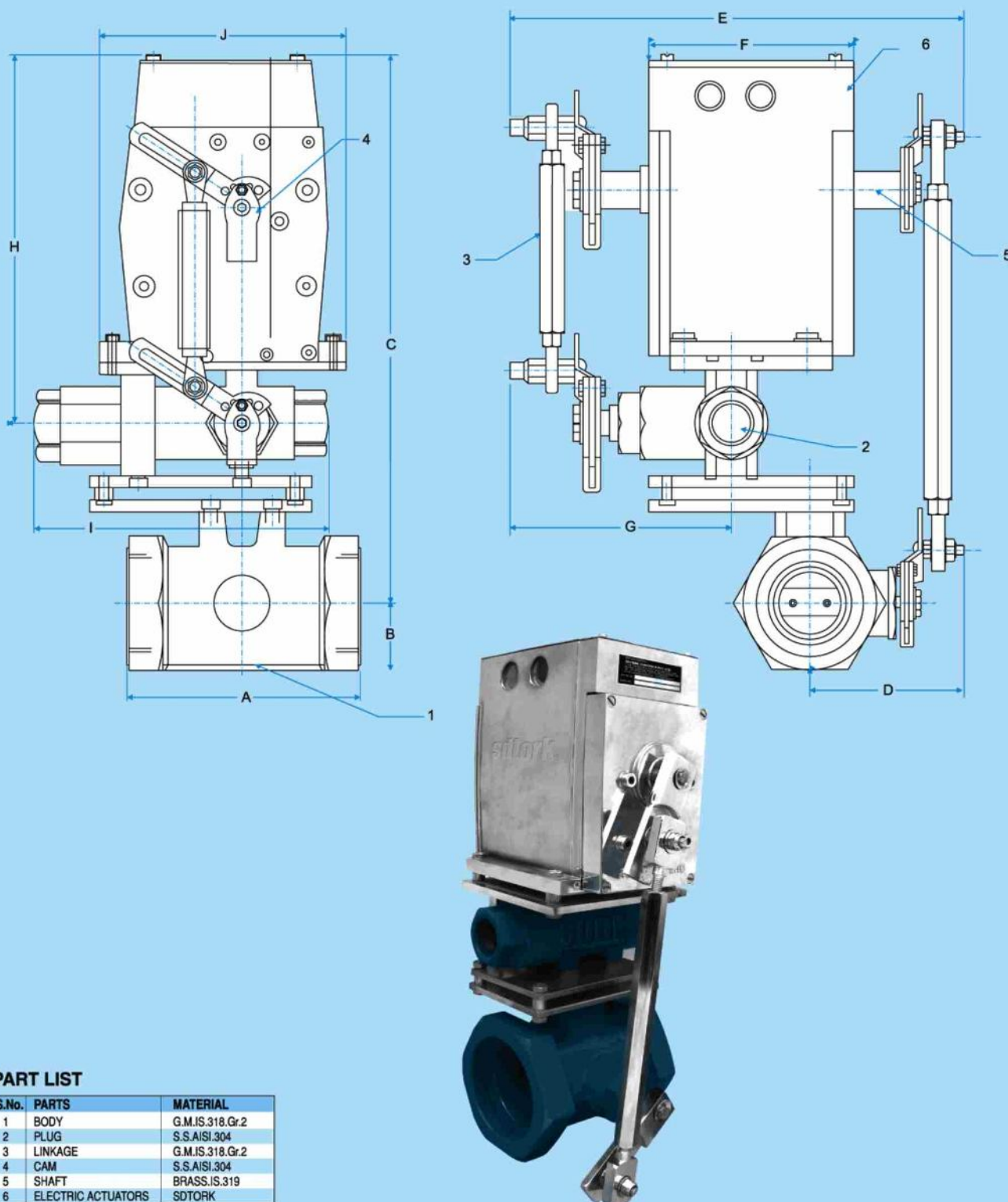
Table-3

VALVE SIZE	CATALOG NUMBER	Cv	
		GL	BF
15/35	COMB/1754/15-1254/35/BZ/CI/BSP/SD-1050	5.03	70.2
15/50	COMB/1754/15-1254/50/BZ/CI/BSP/SD-1050	5.03	128.73
20/65	COMB/1754/20-1254/65/BZ/CI/BSP/SD-1050	7.6	201.24
20/80	COMB/1754/20-1254/80/BZ/CI/BSP/SD-1050	7.6	290.16
25/100	COMB/1754/25-1254/100/BZ/CI/BSP/SD-1050	10.06	514.8
25/150	COMB/1754/25-1254/150/BZ/CI/BSP/SD-1050	10.06	1161.8

Combination unit Consisting of **Globe Valve Type**
and Butterfly Valve with Electric Actuator

SUDE

1754



PART LIST

S.No.	PARTS	MATERIAL
1	BODY	G.M.IS.318.Gr.2
2	PLUG	S.S.AISI.304
3	LINKAGE	G.M.IS.318.Gr.2
4	CAM	S.S.AISI.304
5	SHAFT	BRASS.IS.319
6	ELECTRIC ACTUATORS	SDTORK

VALVE SIZE	MODEL NUMBER	DIMENSIONS (MM)										Cv		WT. OF ASSY IN KGS.
		A	B	C	D	E	F	G	H	I	J	GL	BF	
15/35	COMB/1754/1 5-1254/35/BZ/C/BSP/SD 1050	133	29	245	110	260	148	106	230	182	142	5.03	70.2	10.6
15/50	COMB/1754/1 5-1254/50/BZ/C/BSP/SD 1050	133	35	250	125	275	148	106	230	182	142	5.03	128.7	11.4
20/65	COMB/1754/20-1254/65/BZ/C/BSP/SD 1050	133	46	256	134	285	148	106	230	182	142	7.6	201.2	12
20/80	COMB/1754/20-1254/80/BZ/C/BSP/SD 1050	143	54	270	154	305	148	106	230	182	142	7.6	290.16	13.5
25/100	COMB/1754/25-1254/100/BZ/C/BSP/SD 1050	159	65	385	160	312	148	106	230	182	142	10.06	514.8	14.8
25/150	COMB/1754/25-1254/150/BZ/C/BSP/SD 1050	178	159	454	198	350	148	106	230	182	142	10.06	1161.8	15.5

SUDE is also proud to offer a high quality line of **High Temperature Butterfly Valves** in Double eccentric / triple off set construction to meet the stringent requirements of today's applications. These valves not only surpasses the high standards required in combustion valve applications, but it is also has unique inherent flow characteristics and capabilities.

DESIGN FEATURES

High temperature butterfly valve is a wafer version with flange locating holes, the companion lug version for dead-end service and other flange requirements. All Sude valves are tested to 100% of full pressure rating before shipment.

The double eccentric construction offers advantages in applications with high pressure and temperature.

Sude interchangeability and compatibility offers you the best in uniformity of products and low cost performance in the industry today.

- Shut off and control of gaseous and liquid media
- Disc and shaft have double eccentric bearing
- Centering pieces can be used as installation aid
- Two seat ring systems available R-PTFE and Inconel
- Seal variants
- Soft seating [R-PTFE] 230° C [max]
- Metallic sealing [Inconel] 450° C [max], and special seating is offered for A temperature of 750° C [max], mainly used for heavy duty engine Euro Testing application.
- Maintenance free
- Long service life, even at high switching frequencies



GENERAL APPLICATIONS:

- Chemical and Petro Chemical Industries
- Hot water and steam systems
- District heat supply
- Vacuum systems
- Ship building
- Gas process technology
- Heavy duty services

PNEUMATIC AND ELECTRIC ACTUATORS

The triple –offset design concept of the Torque seal Butterfly valve differs from that of a standard quarter-turn valve in terms of seating characteristic. A typical Valve (i.e. Ball or high performance butterfly) is position seated and has a set rotation of 0 to 90°. In order to prevent over traveling when automating this type of valve, travel stops are used on air operators and limit switches on motor operators. The torque seal on the other hand is torque seated and requires a set torque from the operator to fully close the valve. Because of this characteristic, there is no defined seating position and in general the valve requires 5-10° of over –travel for a tight seal. Therefore, the travel stop or limit switch should not be used on the closed position. The actuator's closing torque should always be limited by either:

- a) The torque switch in a motor operator.
- b) The spring torque in a fail-closed air operator.
- c) A regulator for a double-acting or fail-open air operator.

The general arrangement of high temperature Butterfly valve with Electrical actuator is mentioned below i.e. for a size up to 12" [refer 1954 series], and for higher size refer 1952 series and for Pneumatic refer 1962 series,



S.No.	PARTS	MATERIAL
1	BODY	CF8M
2	RETAINER RING	CF8M
3	DISC	CF8M
4	SEAT	CF8M
5	STEM	CF8M
6	BUSHING	CF8M
7	GLAND	CF8M
8	TOP COVER	SDTORK MAKER
9	HOUSING	SDTORK MAKER
10	HAND WHEEL	SDTORK MAKER
11	ACTUATOR STEM	SDTORK MAKER

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Cv	WT. OF ASSY IN KGS.
50	1954/50/S6/S6/SD-2000-200	45	51	69	164	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	128.7	21.5
65	1954/65/S6/S6/SD-2000-200	48	60	75	188	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	201.24	24
80	1954/80/S6/S6/SD-2000-200	48	72	80	200	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	290.16	32.5
100	1954/100/S6/S6/SD-2000-200	54	100	95	228	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	514.8	40
125	1954/125/S6/S6/SD-2000-200	57	123	117	268	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	870.23	47.65
150	1954/150/S6/S6/SD-2000-200	57	143	132	300	115	130	40/60	245	200	165	160	145	80	260	100	670	517.5	1161.81	56.45
200	1954/200/S6/S6/SD-2000-600	64	192	158	357	115	130	60/75	245	250	210	200	145	80	260	133	720	542.5	2065.05	94
250	1954/250/S6/S6/SD-2000-600	72	239	184	408	115	130	60/75	245	250	210	200	145	80	260	133	720	542.5	3226.85	129.5
300	1954/300/S6/S6/SD-2000-600	81	290	210	475	115	130	60/75	245	250	210	200	145	80	260	133	720	542.5	4647.24	174.5

Notes :

SUDE

1. For combustion application Ball valve with Pneumatic and Electric Actuator, Butterfly valve with Pneumatic and Electric actuators are also used, for detail literature ask for Series 1200 and 1300.
2. We also supply Solenoid valves Direct acting, Semi-lift, Pilot operated, Latch valves for Low pressure and high pressure application for various sizes ranging from a Size ¼" to 6".
3. We also offer LPG Gas station for various Pressure applications which consist of Filters, Gas Regulators, and Safety Shut off valve, Safety release valve, Pressure switch etc. For detail refer Sude.

All the Electrical actuators can be supplied with intelligent function.

Specifications of Intelligent Actuator

SUDE

The Linear actuator 2000 series meets all major requirements of various Industries, used for continuous regulating services. Both force & travel are widely adjustable in order to avoid any over stress and damage to the valves, particularly to the valve shaft. The actuators themselves are designed to withstand the maximum pushing force without any damage. These Intelligent actuators available in two different types with 230/ 110 volt AC Construction and they are used where very accurate control of Fuel / Air ratio is to be controlled.

Features & Advantages of Intelligent Actuator

SUDE

- Very high stiffness [self-locking]
- Consistent closing force due to internal disc springs
- Flexible mounting position [apart from downwards]
- Silent and jerk less operation
- Hand wheel for the start up / or emergency cases
- Impact and corrosion resistant housing with high grade aluminum
- Wide range of applications
- Robust construction
- Great variety of common accessories, such as
 - Positioner [Input signal 4-20mA, 0-10 V DC]
 - Adjustable limit switches
 - Potentiometer for position feedback
 - Stroke transmitter [standard signal 4-20mA]
 - Space heater for low ambient temperature
- Control device for fail-safe position in case of power failure
- Excellent Positioning accuracy
- Long service life and high reliability
- Adjustable valve travels

	Actuator Model No.	
	2000-200-S	2000-600-S
Suitable for Sizes	50-150mm	200-500mm
Opening time	280 sec/90 degree	306 sec/90 degree
Closing time	280 sec/90 degree	306 sec/90 degree
Torque developed	120 Nm	375 Nm
Degree of protection	IP55	IP55
Standard pulse width	0.008 sec	0.008 sec
Resolution	35000 steps	40000 steps
Input signal	230 V AC Pulse Input	230 V AC Pulse Input
Motor type	Non-blocking stall duty	Non-blocking stall duty
Supply voltage	230 V AC	230 V AC
Rating	3.14W	16.0 W
Class of Insulation	'B'	'E'

Constructional View of Intelligent Electrical Actuator

SUDE



1000 SERIES



2000 SERIES



5000 SERIES

Electronic positioner

Single or double potentiometer

Rack

Easily adjustable limit and signal switches

Space heater

O-ring

Guide Rod

The top cover, made of high-quality graded Aluminum, ensures protection class IP 65/IP67 and allows outdoor installation

Electronic position transmitter

Spur gear with minimum backlash and low wear for precise positioning of the valve stem; high actuator output stiffness due to self-locking drive

The proven disc spring coupling provides a definite setting force and tight closing with self alignment. The rotation lock serves as a mechanical stroke indicator

The mounting support rods made of non-corrosive steel for simple, versatile mounting to the valve

Additional stroke switches or intermediate switches

Synchronous stall duty motors without over-run are used for precise positioning to allow mode of operation S4-1200 cycles/hr

Comfortable hand operation by means of hand wheel with clutching/de-clutching mechanism

Specifications of Control Panel

- Main On/Off switch [MCB]
- Auto / Manual switch
- Micro processor based pulse convertor
- Current source
- 4-20 mA Feed back Output
- Provision for Run Mode / Test Mode selection – under test mode valve will operate through Push Button by keeping Auto / Manual switch in manual mode position. Under Run mode valve will operate through Current source of the Panel by keeping Auto / Manual switch in manual mode position. Under Run mode valve will be operated through programmable Input signal from DCS OR QCS in the form of 4-20mA OR 0 to 10 V DC OR Pulse Input by keeping Auto / Manual switch in Auto mode position [Valve Actuator can be site calibrated to understand DCS OR QCS language]
- Provision for fast & slow operation through Toggle selection. Under Run mode [either Auto OR Manual selection] if fast operation is required then operate the toggle switch to fast mode, for slow operation operate the toggle switch to slow mode.
- Under fast mode valve will travel quickly to the nearest Input signal position and final position will be reached slowly through intelligent circuit operation. Under slow mode valve will reach to the required Input signal position slowly & proportionately through intelligent circuit operation.
- Inbuilt Digital Display for Valve position indication in percentage



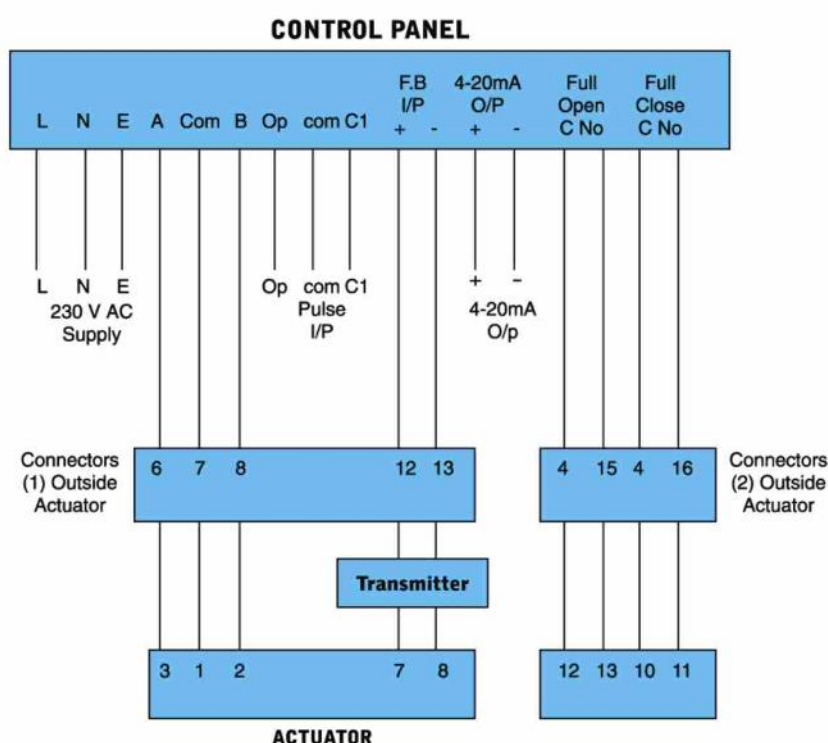
Wall mounted control panel.



Integral Starter

Connection of Wiring Diagram

SUDE





OUR OTHER PRODUCTS



NOTE : TECHNICAL SPECIFICATIONS, DETAILS & DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. DIMENSIONS IN THE TABLE ARE APPROXIMATE SUBJECT TO FINAL CONFIRMATION BY SUDE.



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SUDE

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