Bulk Solids Handling Equipment

AKMK IRIS VALVE

SILOFLO
AKMKGROUP

Products Handbook 2025

Bulk Solids Handling Equipment

Industry application of small bulk bag unloading station

Dust Hopper Application

Big bag unloading station industry application

Application of small dustbin

Bulk Container (IBC) Unloading Applications

Food and pharmaceutical industry applications

Bulk Container (FIBC) Unloading Applications

Chip industry clean room application

Overview

Series AD Valves

The AD Valve is the most popular range of hand operated iris valves.

A double diaphragm valve is ideal for in-line applications, with no leakage to atmosphere.

P 1

Series ADK Valves

ADK clamp-on quick-release valves are a derivative product following the AD series valves.Double diaphragm valves are ideal for online applications and will not leak into the atmosphere.

P 5

A2P Power Operated Valves

The latest in powered Iris Diaphragm Valve technology. The unit features air motor or electric motor operation for light and medium duties, with robust construction for frequent operation.

P 8

Series KD Valves

This valve has been specifically designed for applications demanding high levels of hygiene.
This product is extremely popular with the food and pharmaceutical markets, as it can easily be stripped down and cleaned in moments.

P 10

Series JS Valves

The Series JS Valve is specifically designed for fitting to Big Bag Discharge Stations to allow controlled product discharge from Flexible Intermediate Bulk Containers (FIBCs).

P 15

Series IR Valves

The Series IR Valve is specifically designed for fitting to Big Bag Discharge Stations to allow controlled product discharge from Flexible Intermediate Bulk Containers (FIBCs).

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Diaphragm Selection Guide

P 18

IRIS DIAPHRAGM VALVE

Iris diaphragm valve-AD-Series

The AD series iris valve is mainly used to unload bulk material bags. The valve is used to tighten the neck of the material bag and cut off the flow of materials.The iris valve performs well when conveying explosive materials and brittle materials. Double diaphragm structure, good sealing effect.

AD-Series
Iris diaphragm Valve

AD

Performance & Technical Features - Benefits

- AD Series Iris Valves have a double diaphragm for in-line applications with no leakage of powders to the atmosphere.
- Robust construction for medium to heavy duty applications. This valve is able to handle materials up to 1600 Kg / m³.
- Proven design and is suitable for frequent operation.
- There are a number of different diaphragms that could be used to suit your specific application.
- Ø Standard AD Iris Valve Range - Nominal Bore size 80mm to 450mm
- In-situ diaphragm adjustment, reducing maintenance time

Options & Accessories

- 316 stainless steel contact parts*
- Multi-notching to enhance fow control*
- Coating of standard construction*

*optional

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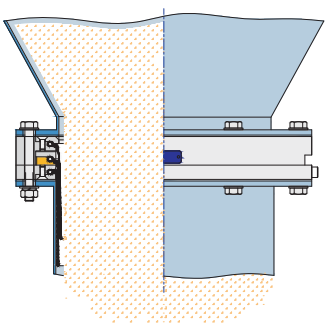
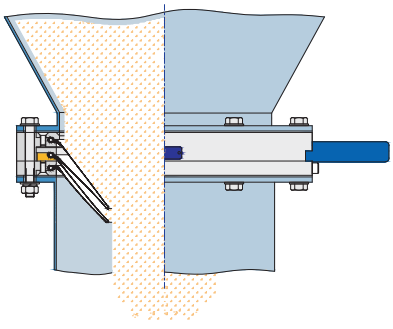
HOW TO ORDER

A	D	12	M	A	0	■

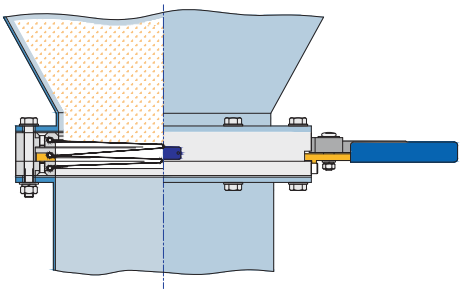
TYPE	Diaphragm type	Nominal Bore	Drive	Body material	Contact material	Diaphragm material
A Standard	D Double diaphragm S Single diaphragm	3"=80mm 4"=100mm 6"=150mm 8"=200mm 10"=250mm 12"=300mm 15"=380mm 18"=450mm	M Handlever HW Handwheel	A AISI304 R AISI316 L Aluminum C Carbon steel	0 Consistent valve body 1 Carbon steel 2 AISI304 3 AISI316 4 Aluminum	N Nylon 2oz, 4oz and 7oz A Anti-Statin T Terylene 4oz and 7oz H UPE F Teflon S Silicone R NR G CR



Fully Open



Flow Control



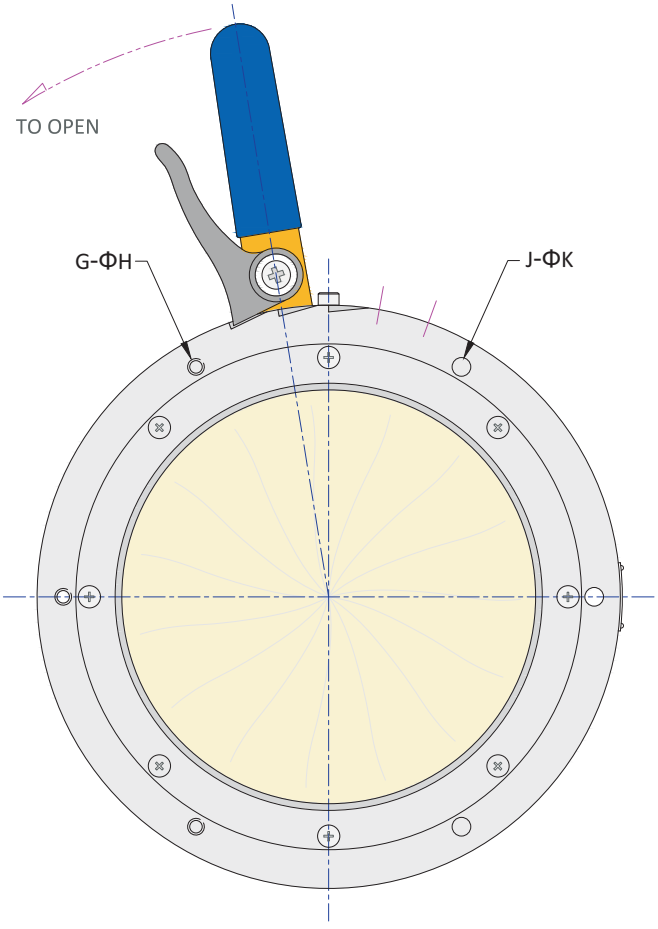
Fully Closed

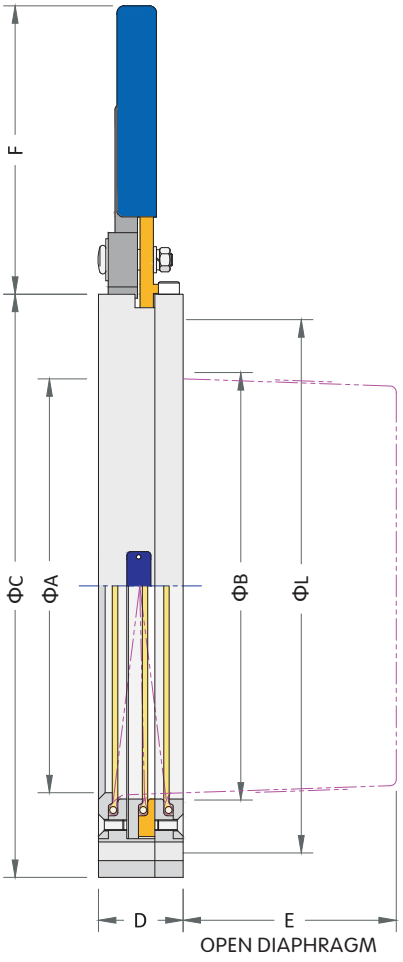
Dimensions in mm

IRIS DIAPHRAGM VALVE

Hand Operated valve-AD-Series

Overall Dimensions





CONNECTION SIZE

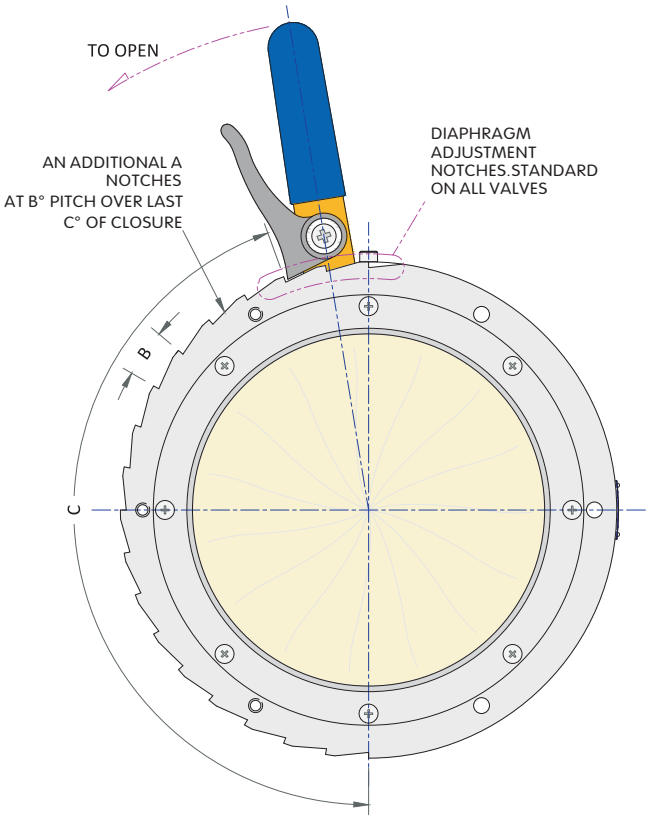
Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	Nett Weight
AD 3	3"(80mm)	73	78	127	35	38	109	3	M6	3	7	113	4,0
AD 4	4"(100mm)	102	106	172	36	50	136	3	M8	3	9	156	5,8
AD 6	6"(150mm)	147	153	228	41	75	136	3	M8	3	9	203	9,4
AD 8	8"(200mm)	198	204	280	41	102	136	3	M8	3	9	254	12,0
AD 10	10"(250mm)	250	260	356	52	127	174	4	M10	4	11	327	22,0
AD 12	12"(300mm)	305	310	406	52	152	174	4	M10	4	11	378	25,4
AD 15	15"(380mm)	377	387	498	59	190	180	6	M10	6	11	470	42,1
AD 18	18"(450mm)	456	464	575	59	228	180	6	M10	6	11	546	48,5

Dimensions in mm

IRIS DIAPHRAGM VALVE

Hand Operated valve-AD-Series

OPTIONAL

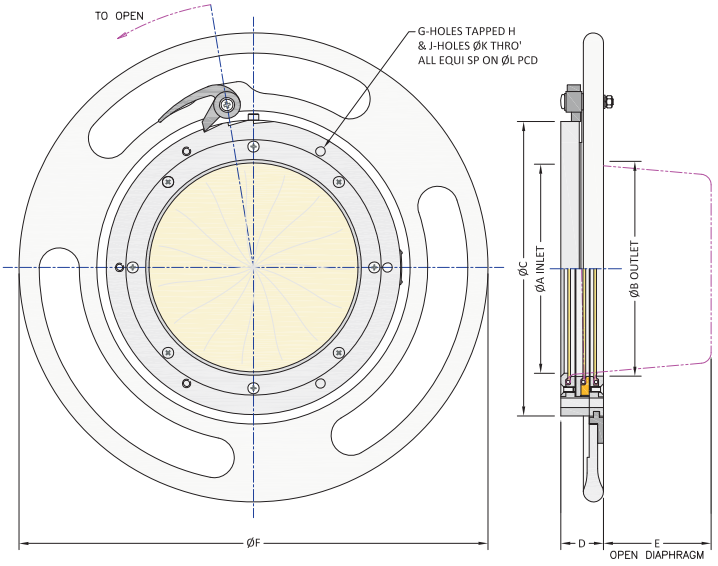


Valve Type	Nom Bore	Notch Arrangement	A	B	C
AD 3	80	Fully	11	14	154
AD 4	100	Fully	14	11	154
AD 4	100	Half	6	11	66
AD 6	150	Fully	16	10	160
AD 6	150	Half	7	10	70
AD 8	200	Fully	16	10	160
AD 8	200	Half	9	10	90
AD 10	250	Fully	18	9	162
AD 10	250	Half	9	10	90
AD 12	300	Fully	16	10	160
AD 12	300	Half	7	10	70
AD 15	380	Fully	27	6	162
AD 15	380	Half	15	6	90
AD 18	450	Fully	35	5	175
AD 18	450	Half	14	5	70

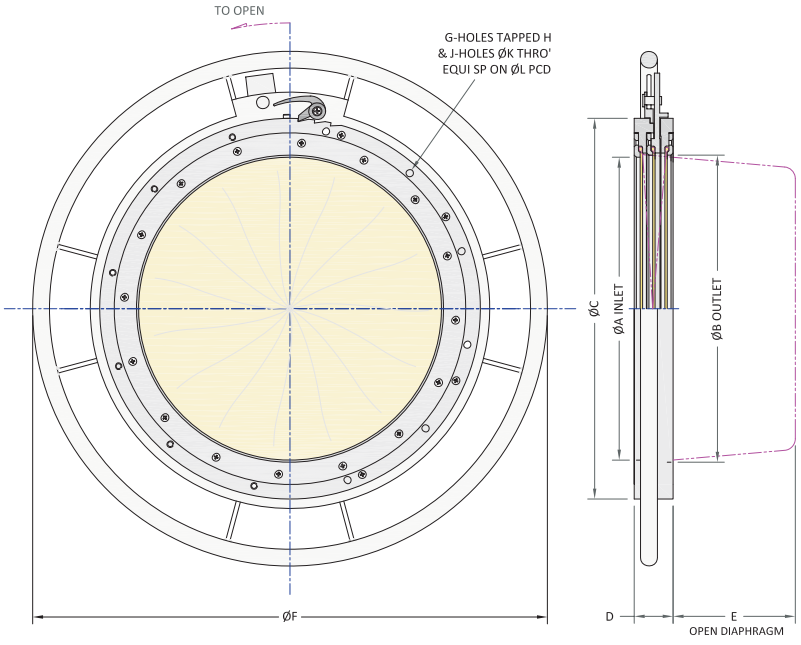
Dimensions in mm

HAND WHEEL IRIS DIAPHRAGM VALVE

Series AD Hand Wheel Operated Valves



Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	Nett Weight
AD 6H W	6"(150mm)	147	153	228	41	75	445	3	M8	3	9	203	9,4
AD 8 HW	8"(200mm)	198	204	280	41	102	445	3	M8	3	9	254	12,0
AD 10H W	10"(250mm)	250	260	356	52	127	584	4	M10	4	11	327	22,0
AD 12 HW	12"(300mm)	305	310	406	52	152	584	4	M10	4	11	378	25,4
AD 15H W	15"(380mm)	377	387	498	59	190	702	6	M10	6	11	470	42,1
AD 18H W	18"(450mm)	456	464	575	59	228	778	6	M10	6	11	546	48,5



Dimensions in mm

IRIS DIAPHRAGM VALVE

Quick Release Iris diaphragm valve-ADK-Series

The ADK series iris valve is mainly used to unload bulk material bags. The valve is used to tighten the neck of the material bag and cut off the flow of materials.The iris valve performs well when conveying explosive materials and brittle materials. Double diaphragm structure, good sealing effect.

ADK-Series
Iris diaphragm Valve

ADK

Performance & Technical Features - Benefits

- AD Series Iris Valves have a double diaphragm for in-line applications with no leakage of powders to the atmosphere.
- Robust construction for medium to heavy duty applications. This valve is able to handle materials up to 1600 Kg / m³.
- Proven design and is suitable for frequent operation.
- There are a number of different diaphragms that could be used to suit your specific application.
- Ø Standard AD Iris Valve Range - Nominal Bore size 80mm to 450mm
- In-situ diaphragm adjustment, reducing maintenance time

Options & Accessories

- 316 stainless steel contact parts*
- Multi-notching to enhance fow control*
- Coating of standard construction*

*optional

1

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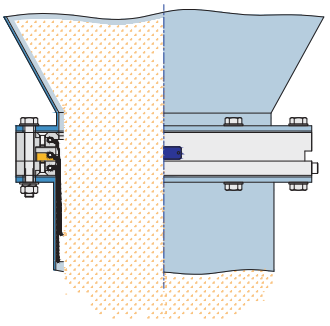
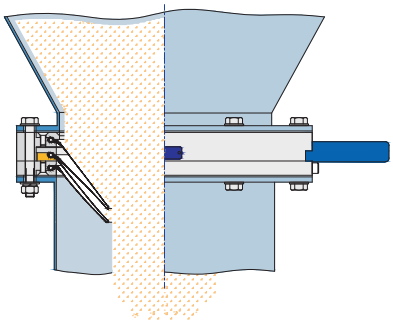
HOW TO ORDER

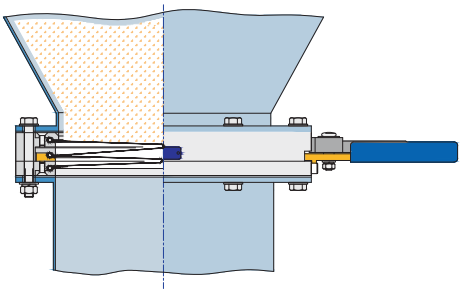
A	D	K	S	12	M	A		T
TYPE	Diaphragm	Installation	Clamp	Nominal Bore	Drive	Body Material	Contact Material	Diaphragm material
A	D Double diaphragm	K Quick Release	S Single clamp D Double clamp	3"=80mm 4"=100mm 6"=150mm 8"=200mm 10"=250mm 12"=300mm 15"=380mm	M Handlever HW Handwheel	A AISI304 R AISI316 L Aluminum	O Consistent valve body 2 AISI304 3 AISI316 4 Aluminum	N Nylon 2oz, 4oz and 7oz A Anti-Statin T Terylene 4oz and 7oz H UPE F Teflon S Silicone R NR G CR



Fully Open



Flow Control



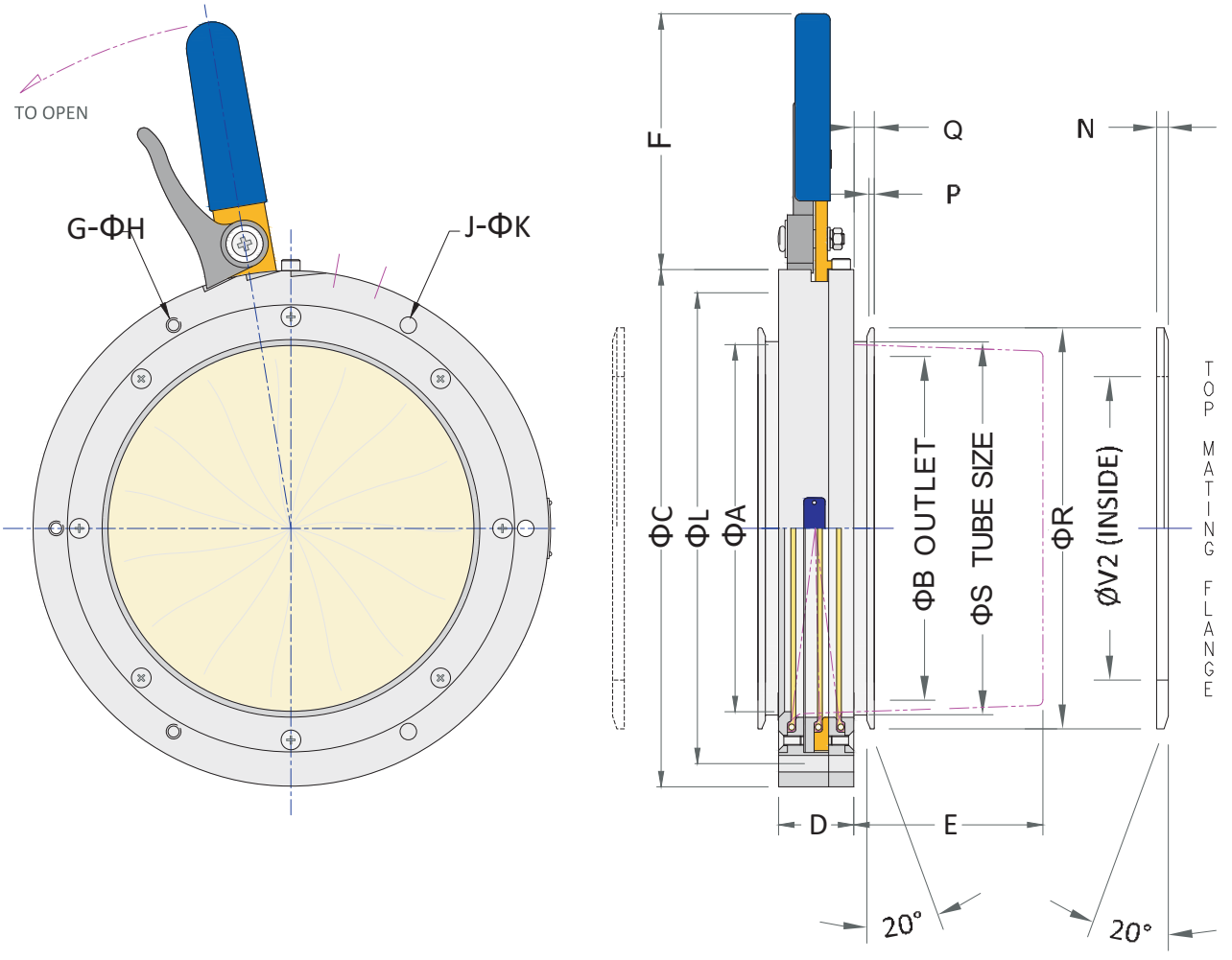
Fully Closed

Dimensions in mm

IRIS DIAPHRAGM VALVE

Hand Operated valve-ADKD-Series

Overall Dimensions



CONNECTION SIZE

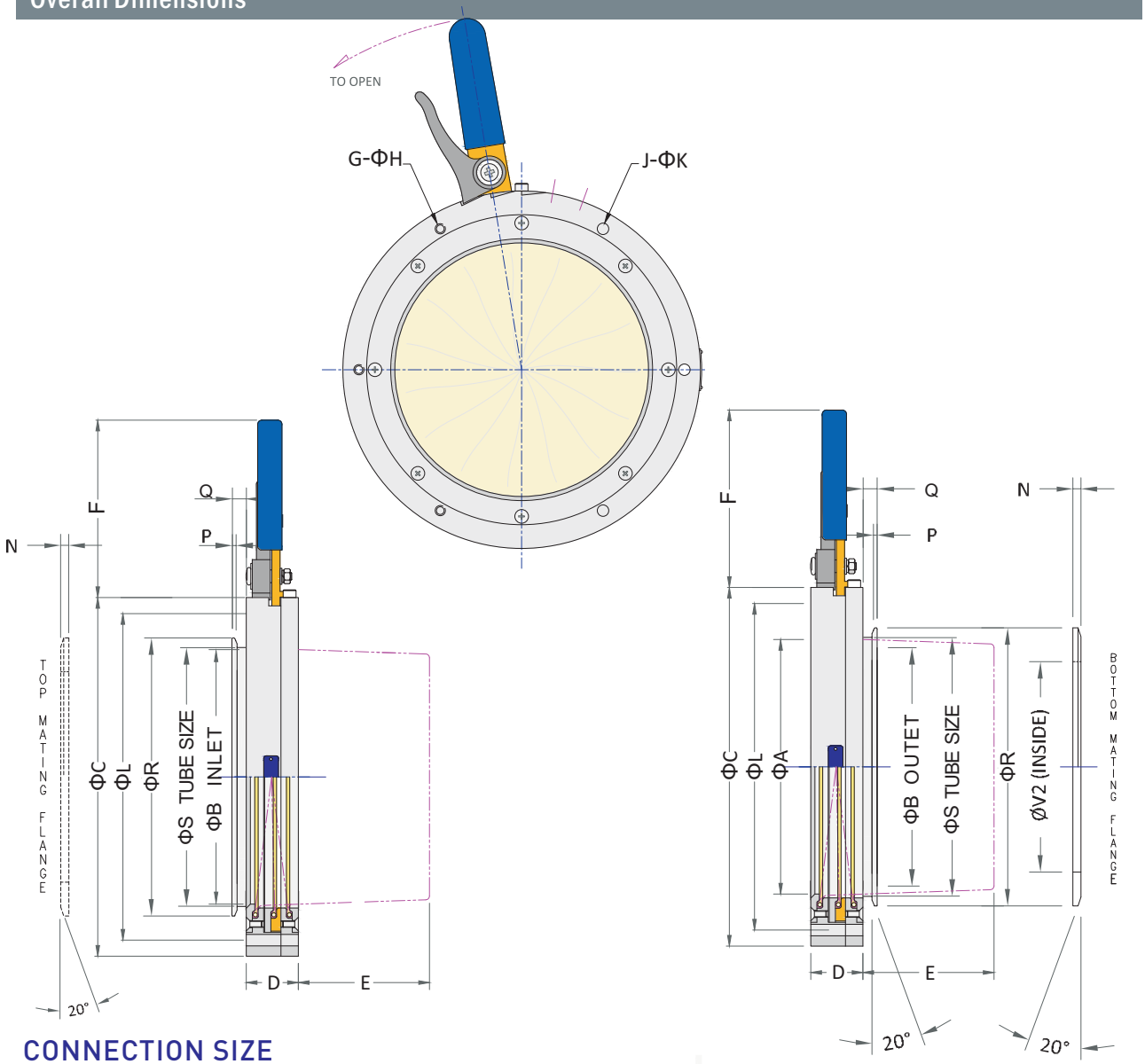
Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	N	P	Q	R/S DIN	R/S ISO
ADKD 4	4"(100mm)	102	106	172	36	50	136	3	M8	3	9	156	5	8	15	119/104	119/108
ADKD 6	6"(150mm)	147	153	228	41	75	136	3	M8	3	9	203	7	8	15	167/154	178/159
ADKD 8	8"(200mm)	198	204	280	41	102	136	3	M8	3	9	254	7	8	15	217/204	233/219
ADKD 10	10"(250mm)	250	260	356	52	127	174	4	M10	4	11	327	7	8	19	268/254	286/273
ADKD 12	12"(300mm)	305	310	406	52	152	174	4	M10	4	11	378	7	8	19	319/305	355/325
ADKD 15	15"(380mm)	377	387	498	59	190	180	6	M10	6	11	470	8	8	19		
ADKD 18	18"(450mm)	456	464	575	59	228	180	6	M10	6	11	546	8	8	19		

Dimensions in mm

IRIS DIAPHRAGM VALVE

Hand Operated valve-ADKS-Series

Overall Dimensions



CONNECTION SIZE

Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	N	P	Q	R/S DIN	R/S ISO
ADKS 4	4"(100mm)	102	106	172	36	50	136	3	M8	3	9	156	5	8	15	119/104	119/108
ADKS 6	6"(150mm)	147	153	228	41	75	136	3	M8	3	9	203	7	8	15	167/154	178/159
ADKS 8	8"(200mm)	198	204	280	41	102	136	3	M8	3	9	254	7	8	15	217/204	233/219
ADKS 10	10"(250mm)	250	260	356	52	127	174	4	M10	4	11	327	7	8	19	268/254	286/273
ADKS 12	12"(300mm)	305	310	406	52	152	174	4	M10	4	11	378	7	8	19	319/305	355/325
ADKS 15	15"(380mm)	377	387	498	59	190	180	6	M10	6	11	470	8	8	19		
ADKS 18	18"(450mm)	456	464	575	59	228	180	6	M10	6	11	546	8	8	19		

Dimensions in mm

IRIS DIAPHRAGM VALVE

A2P Power Operated Valves

The Series A2P Iris valve with its innovative drive arrangement, offers a light, slim and robust construction for frequent operations in a variety of environments.

A2P-Series
Iris diaphragm Valve

A2P

- Double diaphragm for in-line applications with no leakage to atmosphere
- Suitable for heavy duty materials up to 1600 kg/m?
- Quick operation, capable of opening or closing in one second
- Belt driven for quiet operation
- Drive ring supported on bearings for smooth operation
- Valve is sealed against ingress of dust
- Low prole compact design
- Fully open, closed and intermediate electric proximity sensors
- Electric or air motor operation to suit application
- Bore sizes are 150mm, 200mm and 300mm
- Special switch/solenoid packages for hazardous locations*
- Surface coating to suit corrosive environments*
- 316 stainless steel product contact parts*
- ATEX Certied to Category 2D *

*optional

HOW TO ORDER

A2P	12	E	L	0	T
TYPE	SIZE (inch)	Drive	Body material	Contact material	Diaphragm material
A2P Series	6"=150mm 8"=200mm 10"=250mm 12"=300mm 15"=380mm 18"=450mm	E Handle P Hand wheel	A SS 304 R SS 316 L Aluminum C Carbon steel	0 Consistent valve body 1 Carbon steel 2 SS 304 3 SS 316 4 Aluminum	N Nylon 2oz, 4oz and 7oz A Anti-Statin T Terylene 4oz and 7oz H UPE F Teflon S Silicone R NR G CR

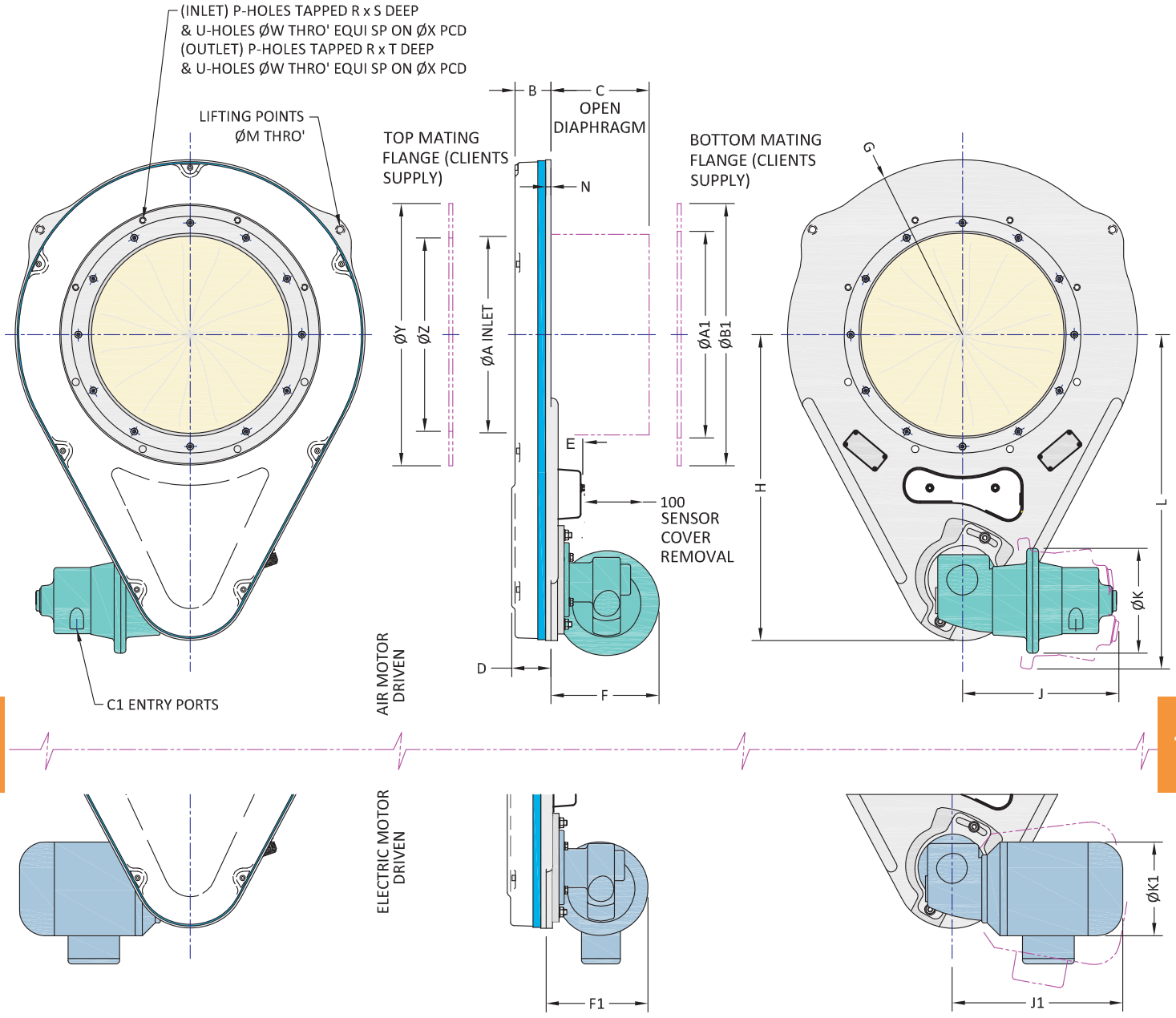
Technical Details

Electric Motor: 0.37kW, 2-pole, IP55 induction motor suitable for 220/240-380/415-3ph-50/60Hz supply.
Air Motor: D1 kW, 3000rpm reversible air motor using E1 L/min of lubricated compressed air at 5.6bar
Port sizes for the air motor control valve must be a minimum of ½" BSP to achieve the required air flow rate (see pneumatic table for additional information)
A2P Valve is fitted with Open, Closed and Trickle position indicator sensors
Proximity Sensors: Nominal voltage 8.2V (Intrinsically Safe), Current consumption →3mA and ← 1mA when activated. IP67
Option for Pulse Counting Trickle positioning
Proximity sensor in conjunction with a notched 'pulse' ring on the output shaft of the gearbox.
Proximity Sensor: Nominal voltage 8.2V (Intrinsically Safe), Current consumption →3mA and ← 1mA when activated. IP67
All switches have a two metre sensor cable that exits through a single port in the ABS switch box

Options

- Internal pulse generation assembly or for greater accuracy a motor with encoder. Both options are able to provide positional feedback on the size of the diaphragm opening between fully open and fully closed. Ideal for systems requiring variable trickle feed positions or even closed loop feedback for weighing applications.
- A control module is available for full integration with the client s control systems.

Dimensions in mm



Common

Valve Type	Nominal Bore	A	B	C	D	E	G	H	L	M	N	P	R	S	T	U	W	X	Y	Z	A1	B1
A2P06	150	147	46	75	55	40	180	367	412	10	8	3	M8	15	12	3	9	203	228	142	158	228
A2P08	200	198	46	100	55	40	205	385	430	10	8	3	M8	15	12	3	9	254	280	193	209	280
A2P12	300	300	52	150	60	50	267	467	510	10	8	4	M10	20	15	4	11	378	400	295	315	400

Pneumatic

Valve Type	Nominal Bore	F	J	K	C1	D1	E1	Nett Weight
A2P06	150	165	214	160	1/4"BSP	0.56	1000	14
A2P08	200	165	214	160	1/4"BSP	0.56	1000	17
A2P12	300	173	210	160	3/8"BSP	1.0	1700	30

Electric

Valve Type	Nominal Bore	F1	J1	K1	Nett Weight
A2P06	150	148	278	160	14
A2P08	200	165	278	160	17
A2P12	300	165	250	160	30

Unless otherwise stated, all dimensions in mm / weights given for Aluminium unit in kg

Dimensions in mm

IRIS DIAPHRAGM VALVE-QUICK RELEASE

Quick Release Iris diaphragm valve-KS-Series

Following the success enjoyed by the standard Series K range of double diaphragm Iris valves. The Series KS has been designed with a single diaphragm specifically for light duties associated with open discharge applications in the Pharmaceutical, Dairy and Food processing sectors.
The Series KS Iris valve has all the same proven features and benefits required for today's process industries concerning hygiene; ease of assembly and disassembly for quick and frequent cleaning without the need for tools. The Series KS valve can also be supplied with a Transit Cover for added security

KS-Series
Iris diaphragm Valve

KS Performance & Technical Features - Benefits

Superb material fow control
- Non jamming
- Ideal for use with Intermediate Bulk Containers (IBC) and open discharge applications
- Choice of FDA compliant easy to clean diaphragms
- Speed of cleaning reduces downtime and increases productivity
- Band Clamp flange connections for quick release

HOW TO ORDER

K	S	06	M	Q		
TYPE	Diaphragm style	Nominal Bore	Drive	Installation style	Body material	Diaphragm material
K Quick Release	S Single diaphragm	6"=150mm 8"=200mm 10"=250mm	M=Handlever	Q	R AISI316	S Silicone E EPDM

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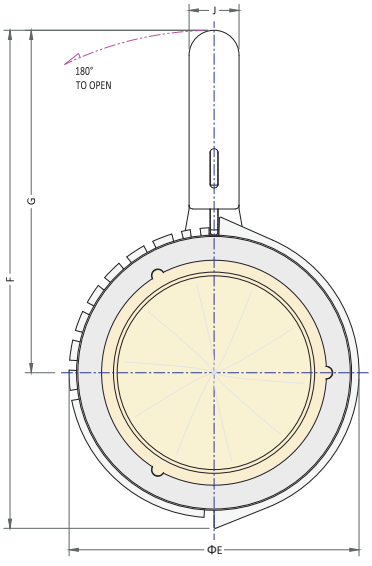
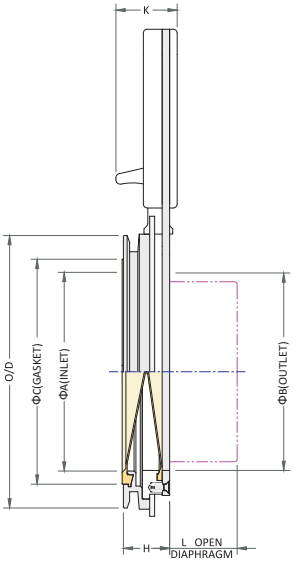


THE TOP MATING FLANGE & BAND CLAMPS ARE IDENTICAL TO THOSE USED WITH THE KD-SERIES VALVES AND ARE AVAILABLE AS AN OPTIONAL EXTRA



Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	Nett Weight
KS 6	150	159	158	180	218	232	400	274	37	40	49	60	3.12
KS 8	200	210	218	231	268.5	287	455	302	37	40	49	70	3.85
KS10	250	263	260	284	320	334	502	325	37	40	49	80	4.59

Dimensions in mm

IRIS DIAPHRAGM VALVE-QUICK RELEASE

Quick Release Iris diaphragm valve-KD-Series

Specifically designed for Pharmaceutical, Dairy and Food Industry applications, the Series K Valve incorporates Meeting the stringent demands of today's process industries for hygiene including disassembly of equipment without the need for tools and thorough cleaning Only the diaphragm comes into contact with the product.

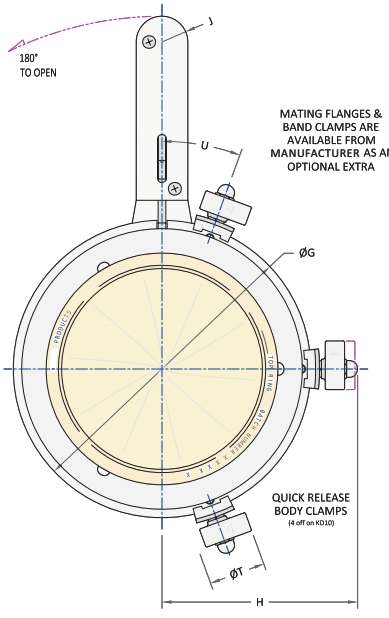
KD-Series
Iris diaphragm Valve

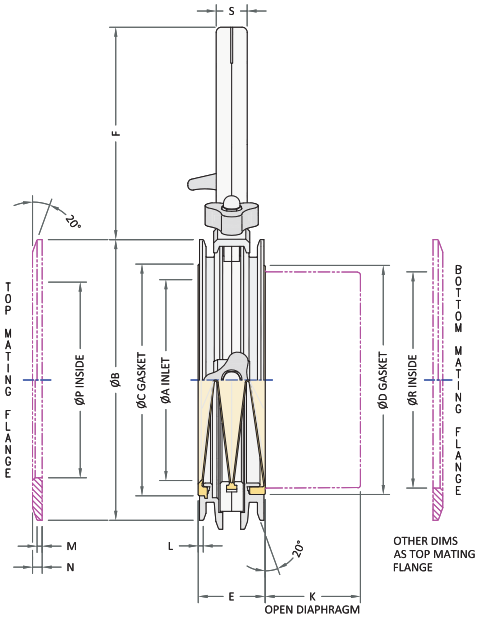
KD
Performance & Technical Features - Benefits

- Only the diaphragm comes into contact with the product
- Unique fasteners for rapid assembly
- Easy to clean moulded diaphragm
- Band clamped flange connections on quick release models

HOW TO ORDER

K	D	06	M	Q		
TYPE	Diaphragm style	Nominal Bore	Drive	Installation style	Body material	Diaphragm material
K Quick Release	D Double diaphragm S Single diaphragm	6"=150mm 8"=200mm 10"=250mm	M=Handlever	Q	R AISI316 P POM	S Silicone E EPDM





Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	Nett Weight
KD6Q	150	156	218	180	178	50	165	231	152	20	75	5	4	7.5	152	168	24	45	20°	4.0
KD8Q	200	206	269	230	228	50	165	283	180	20	80	5	4.5	8	203	218	24	45	17°	5.1
KD10Q	250	260	323	282	280	50	165	337	210	20	95	5	4.5	8	257	272	24	45	14°	6.5

Dimensions in mm

IRIS DIAPHRAGM VALVE-QUICK RELEASE

Series K Hand Operated Valves - Bolted

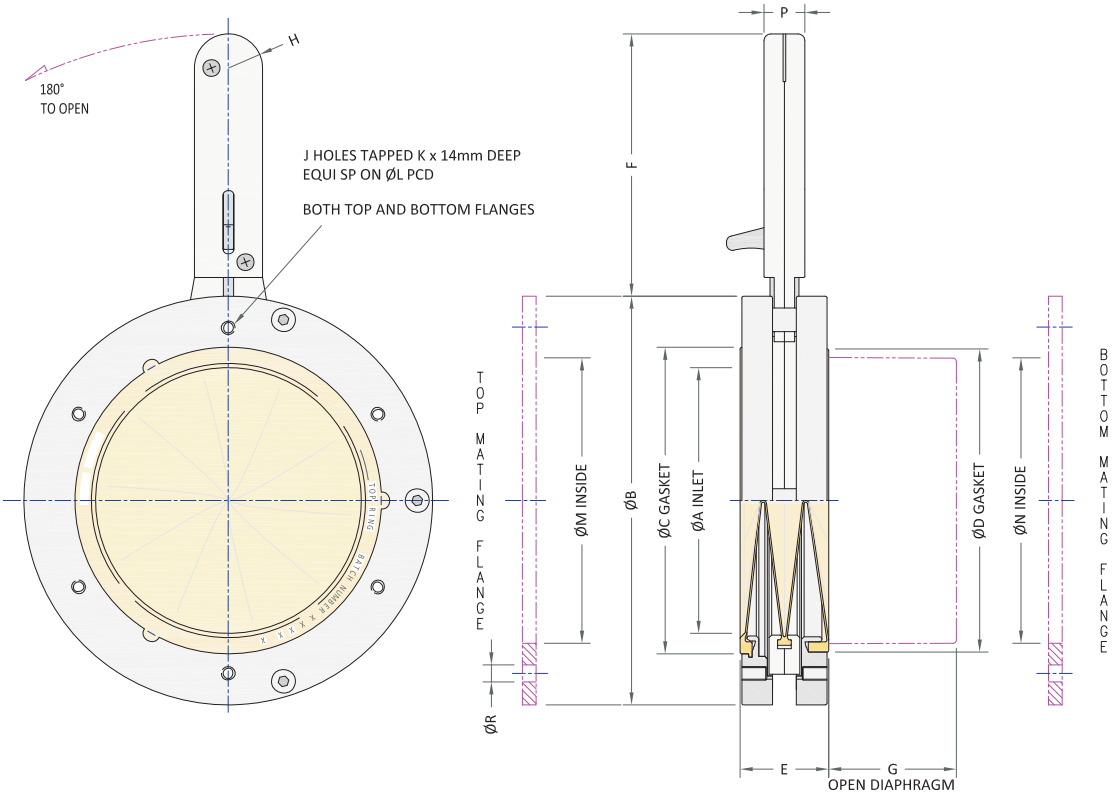
KD series valves are specially designed for pharmaceutical, dairy and food industry applications to meet the stringent hygiene requirements of today's process industries. They feature bolted wafer connections and only the diaphragm is in contact with the product.

KD-Series
Iris diaphragm Valve

KD

HOW TO ORDER

K	D	06	B	■	■
TYPE	Diaphragm type	Diameter (inch)	Installation style	Body material	Diaphragm material
K Series	D Double diaphragm	6"=150mm 8"=200mm 10"=250mm	B Bolted	R SS 316 P POM	S Silicone E EPDM



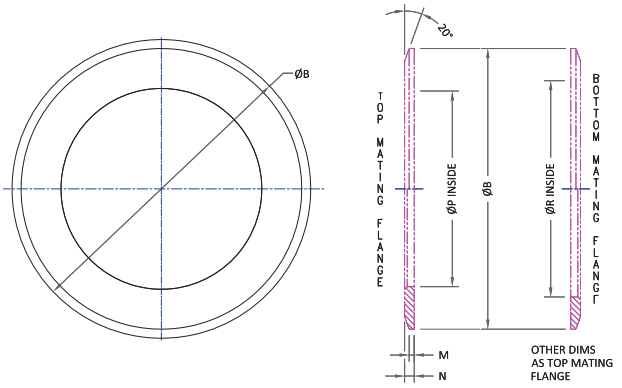
Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Nett Weight
KD6B	150	156	240	180	178	50	155	75	20	6	M8	203	152	168	24	10	24	6.6
KD8B	200	206	290	230	228	50	155	80	20	6	M8	254	203	218	24	10	24	8.4
KD10B	250	260	345	282	280	50	155	95	20	6	M10	327	257	272	24	12	24	10.7

Unless otherwise stated, all dimensions in mm/ weights given in kg

Dimensions in mm

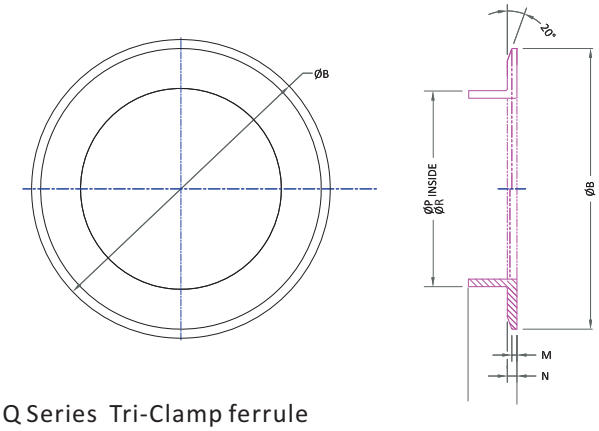
IRIS DIAPHRAGM VALVE-ACCESSORIES

Series K Hand Operated Valves - ACCESSORIES



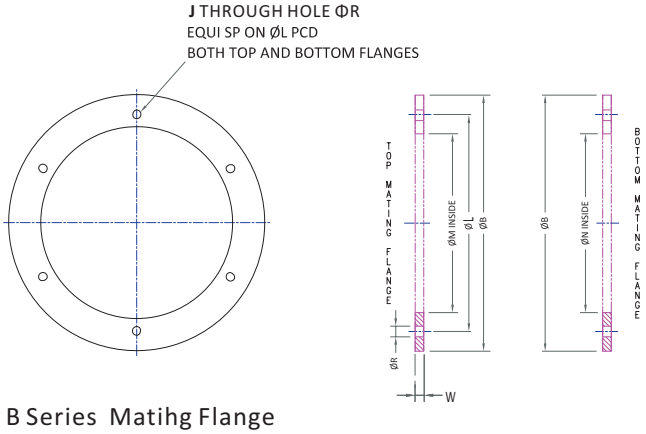
Q Series Matihg Flange

Valve Type	Nominal Bore	B	M	N	P	R	Nett Weight
FL6QT	150	218	4.0	7.5	152		0.2
FL8QT	200	269	4.5	8	203		0.5
FL10QT	250	323	4.5	8	257		1.0
FL6QB	150	218	4.0	7.5		168	0.2
FL8QB	200	269	4.5	8		218	0.5
FL10QB	250	323	4.5	8		272	1.0



Q Series Tri-Clamp ferrule

Valve Type	Nominal Bore	B	M	N	P	R	Nett Weight
QU 6D	150	218	4.0	7.5	152		0.2
QU 8D	200	269	4.5	8	203		0.5
QU10D	250	323	4.5	8	257		1.0
QU 6I	150	218	4.0	7.5		168	0.2
QU 8I	200	269	4.5	8		218	0.5
QU10I	250	323	4.5	8		272	1.0



B Series Matihg Flange

Valve Type	Nominal Bore	B	J	L	M	N	R	W	Nett Weight
FL6B	150	240	6	203	152	168	10	24	0.5
FL8B	200	290	6	254	203	218	10	24	1.0
FL10B	250	345	6	327	257	272	12	24	1.5

Unless otherwise stated, all dimensions in mm/ weights given in kg

Dimensions in mm

IRIS DIAPHRAGM VALVE-QUICK RELEASE

The Gland Seal Solution For Cleanrooms

Iris Diaphragm Valves - Not just for controlling powder!

The Iris Diaphragm Valve (IDV) has proved itself to be one of the most versatile flow control valves for dry bulk solids. When fitted with a rubber/elastomeric diaphragm, the valve is capable of closing around lumps of product, or even foreign bodies trapped during closure, whilst still providing an effective seal to smaller particles and dust. It is this unique feature that has enabled the IDV to seal around service tubes between cleanrooms.

The Problem

Transfer of material from one condition to another. E.g. between light and dark rooms or rooms with pressure differential.

When cleanrooms operate at a slight over pressure, with one being at a higher pressure than the other, problems of pressure loss occur on a regular basis.

The Requirement

An effective, hygienic and reliable way of sealing around any tube diameter passing 'hrough the wall' separating one condition from another.

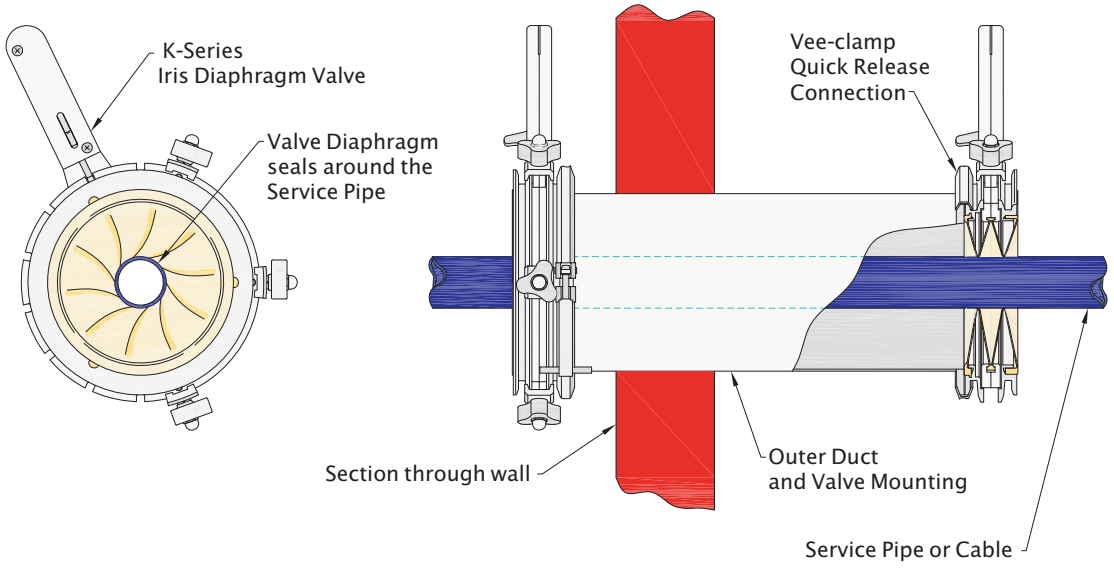
Temporary sealing of service pipe work or tubing e.g. CIP, Utility Pipes etc.

The Solution

Hygienic Series K Iris Diaphragm Valve with quick disconnect flanges brings the tubes together and closes tightly around them.

Material is allowed to flow freely, without pressure leakage or damage to the tubes.

The one piece moulded diaphragm acts as the valves gasket and is easy to remove without the need for tools.



Dimensions in mm

IRIS DIAPHRAGM VALVE

Iris diaphragm valve-JS-Series

The Series JS Valve is specifically designed for fitting to Big Bag Discharge Stations to allow controlled product discharge from Flexible Intermediate Bulk Containers (FIBCs).

JS-Series
Iris diaphragm Valve

JS

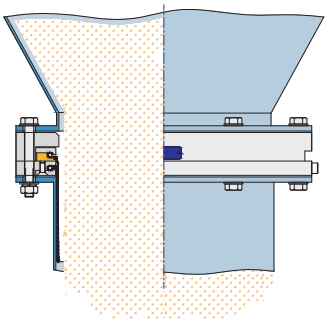
Performance & Technical Features - Benefits

- Designed specifically for FIBCs. Suitable for materials up to 1000 kg/m³
- Single diaphragm for dust tight closure
- Concentric opening/closing for ideal flow characteristics
- Multi-notched body for maximum flow control
- Tapered valve inlet prevents damage and aids flow
- Fabric diaphragms ensure gentle effective shut off
- Robust construction
- Slim design
- Double drilled mounting holes as standard

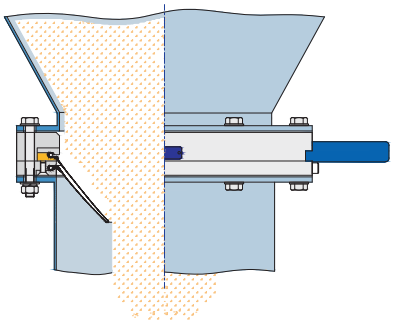
1

HOW TO ORDER

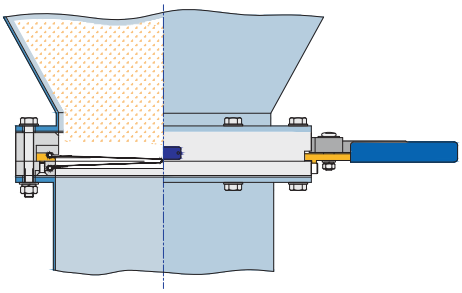
J	S	12	M		
TYPE	Diaphragm	Nominal Bore	Drive	Body material	Diaphragm material
J	S Single diaphragm	12"=300mm 15"=380mm 18"=450mm	M=Handlever HW=Handwheel	L	N Nylon 4oz and 7oz A Anti-Statin T Terylene 4oz and 7oz H UPE F Teflon S Silicone R NR G CR



Fully Open



Flow Control



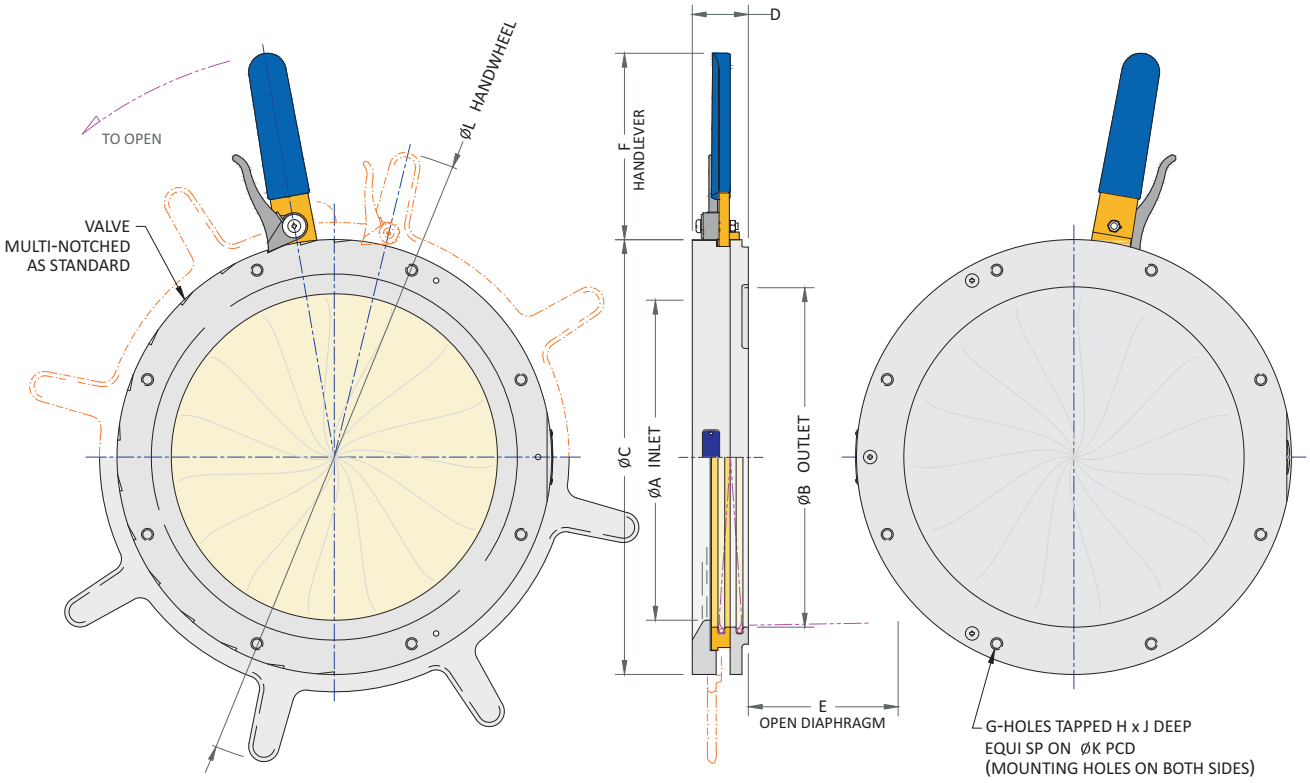
Fully Closed

Dimensions in mm

IRIS DIAPHRAGM VALVE

Iris diaphragm valve-JS-Series

Overall Dimensions



Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	Nett Weight
JS 12	300	305	310	406	52	145	174	8	M10	17	378		7.9
JS 15	380	381	387	498	59	190	190	12	M10	19	470		11.8
JS 18	450	455	464	574	59	235	235	12	M10	19	546		17.2
JS 15HW	380	381	387	498	59	190		12	M10	19	546	720	13.8
JS 18HW	450	455	464	574	59	235		12	M10	19	546	806	19.2

Dimensions in mm

IRIS VALVE FOR BULK BAG

Iris diaphragm valve-IR-Series

The iris valve is mainly used for unloading bulk material bags. The valve acts to cut off the flow of materials by tightening the neck of the material bag.The iris valve performs well when conveying explosive materials and brittle materials.

IR-Series
Iris diaphragm Valve

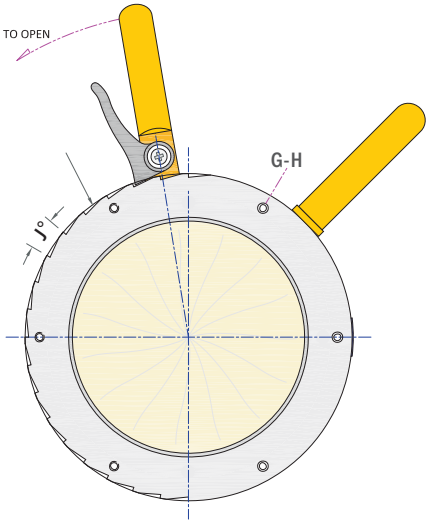
IR

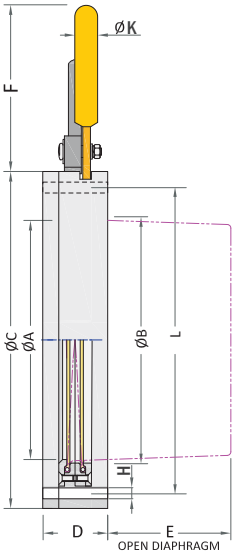
Performance & Technical Features - Benefits

- A variety of diaphragm materials are available, suitable for different media materials
- Simple valve operation and maintenance
- Diaphragm and bushing are easy to replace and inexpensive
- The iris valve will not get stuck
- Aperture type opening and closing, large flow path, no blocking, fast discharge speed

HOW TO ORDER

IR	300	M	■	0	■
TYPE	Nominal Bore	Drive	Body material	Contact material	Diaphragm material
IR	100 250 150 300 200 400 450	M=Handlever HW=Handwheel	A AISI304 R AISI316 L Aluminum C Carbon steel	0 Consistent valve body 2 SS 304 3 SS 316 4 Aluminum	N Nylon 4oz and 7oz A Anti-Statin T Terylene 4oz and 7oz H UPE F Teflon S Silicone G CR





Valve Type	Nominal Bore	A	B	C	D	E	F	G	H	J	K	L	Nett Weight
IR 300	300	297	300	380	44	152	150	6	M10	12,5	25	358	16

Dimensions in mm

IRIS DIAPHRAGM VALVE

Diaphragm Selection Guide

DIAPHRAGM OPTINS

DIAPHRAGM TYPE	FABRIC	COATED FABRIC	RUBBER
Powder		Yes	Yes
Granules	Yes	Yes	Yes
Abrasive	+		Yes
Hygienic			Yes
Pressure		Yes	
Vacuum		Yes	
Temperature	Yes	++	

+ Terylene is abrasion resistant
++ Viton Coated Terylene is ok for 200°C.
Select most appropriate material using the diaphragm selection guide.

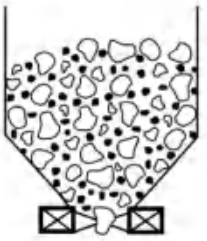
Diaphragm Selection Guide

APPLICATION	Food QualityWhite Rubber	Rubber	TPU	Silicone	UPE	Teflon	Hypalon Coated Nylon	Polyure-thane Coated Nylon	Anti-Statin Terylene	Terylene	Viton Coated Terylene
Powders below 150 mesh	··	··	··	··			··	··			··
Granules over 150 mesh	·	·	·	·	·	·	·	·	·	·	·
Lumps	··	··	··	··	·	·	·	·	·	·	·
Slurry	Under 1M head	Under 1M head	Under 1M head	Under 1M head			·	·			·
Liquid	Under 1M head	Under 1M head	Under 1M head	Under 1M head			·	·			·
Air or Gas							·	·			·
Abrasion resistance	·	··	·	·	··	··			··	··	
Acid	·	·		··	··	··		·			
Alkali	·	·	·	·	··	··	·	·			
Max temperature	70℃	70℃	70℃	150℃	100℃	250℃	120℃	100℃	120℃	120℃	200℃
Min temperature	-0℃	-0℃	-0℃	-0℃	-200℃	-5℃	-5℃	-0℃	-5℃	-5℃	-0℃
Pressure or vacuum		Below 0.14 bar									
Food or pharm	··			··	··	··	·	·	·	·	
Infestation or mould growth	·			·	··	··	·		··	··	
Dangerous static			·								
Hygroscopic	··	··		··	··	··	·	·			
Oil or Fat content					·	·	··	·	·	·	·
Poor flow	··	··	··	··							
Flammability	Inflammable	Inflammable	Inflammable	Inflammable	Inflammable	Will not propo gate a flame			Inflammable	Inflammable	
Weather resistance	Good	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent	Slow loss ofstength	Slow loss ofstength	Good
Tensile strength kgs/cm²	120	120	100	80	200	4.6	25%above Basematerial	25%above basematerial	6.4	6.4	6.4
Elongation &break	700%	700%	700%	700%	3.5%	13%	25%	25%	30%	30%	30%
Cost factor	2	2	2	2	2	5	1	1	1	1	1
Availability 1-best 5-worst	1	1	2	3	1	4	3	1	2	2	4

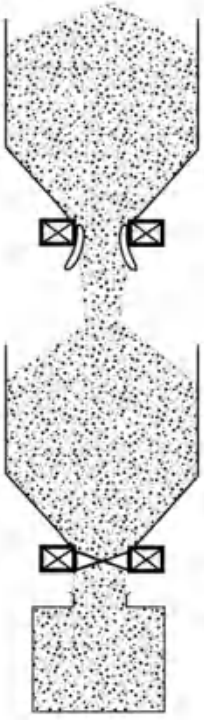
Icon description: ··good ·average x poor

Dimensions in mm

THE VERSATILE SILOFLO IRIS DIAPHRAGM VALVE

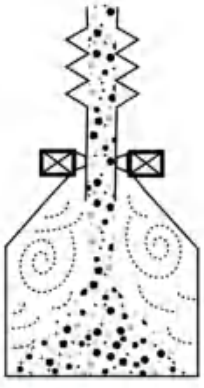


Capable of closing around large particles while preventing the flow of smaller particles.

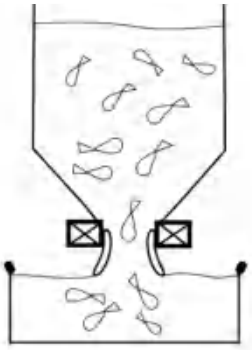


Used with a liner - ideal as a means of choke feeding material from IBC.

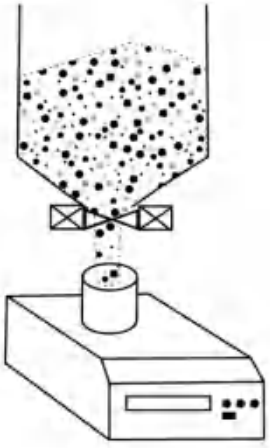
A liner can connect to other equipment to provide a dust tight means of transferring material from an IBC.



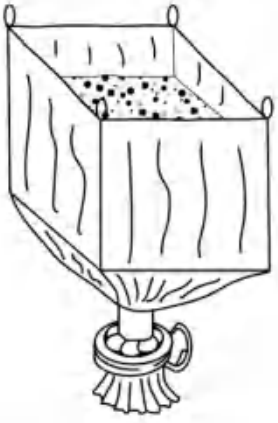
As an inlet valve, it will gland around the loading spout to eliminate dusting.



A safe, gentle valve for fish transport tanks (with or without a liner).



Accurate flow control for weighing and batching applications.



An ideal neck throttling device for flexible Bulk Bags.

A liner also acting as the gasket between the valve and its mating flange makes a hygienic, easy to clean IBC / valve combination.

Dimensions in mm

INSTALLATION OF A IRIS VALVE

THE VERSATILE SILOFLO IRIS DIAPHRAGM VALVE

The diaphragm below shows the correct way to install a iris Diaphragm Valve.

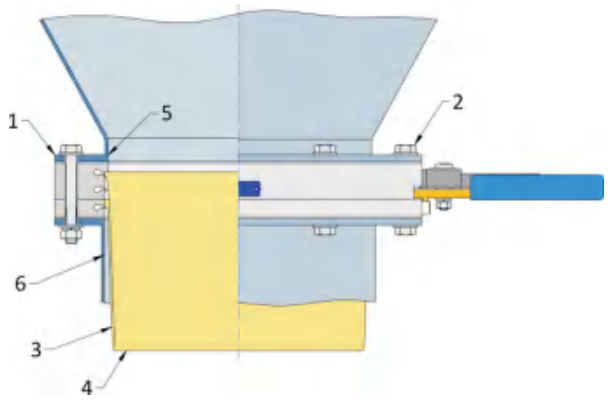
If our recommendations are followed, a prolonged diaphragm life will result.

The AD, BD, JS and K Series have lever slots, which allow the control levers to move through 180°.

Installation of the Iris valve requires a combination of through bolts and set screws to be used.

If there is any misalignment of the ductwork, the lever slot may be caused to open or close when the Iris valve is connected. Serious misalignment of the ductwork will put the valve body under stress, resulting in rapid wear of certain valve components.

All valves are fitted with a label indicating the direction of material flow.



1. Flanges must be flat and free from distortion
2. Fixing bolts over and under the lever slot must not protrude into the slot. If so, the Control Ring would be unable to open and close the valve.
3. The length of the open diaphragm below the valve (see valve details in brochure)
4. There must be a 12mm clearance between the base and open diaphragm
5. The outlet diameter of a hopper should be 5mm smaller than the inlet of the valve.
6. The discharge diameter of the diaphragm should be 10mm larger than the outlet valve diameter.

Use of Liners

The need for a liner with a Iris Diaphragm Valve installation may become apparent after the valve has been used for a short period of time. This is because Liners are successful in combating three basic problems.

- Assisting diaphragm opening where powders are very fine and with a low bulk density.
- Combating diaphragm wear if the material handled is particularly abrasive.
- Reduces the effort required to operate a valve, where a high static load is imposed on the valve. Liners can be used on their own with a Quick Release Adaptor.

Liners to Assist Opening

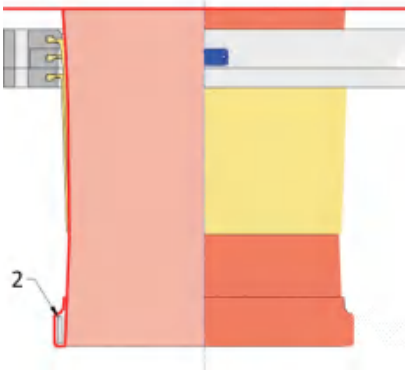
When a fabric diaphragm is specified, it is always necessary to have a certain weight of material acting downwards to make it open fully. If the material handled has a tendency to 'bridge', often the diaphragm will only partially open, as there is insufficient material weight acting on the diaphragm to make it open fully.

Dimensions in mm

INSTALLATION OF A IRIS VALVE

THE VERSATILE SILOFLO IRIS DIAPHRAGM VALVE

This situation can be overcome if a flanged liner is hung through the valve, with a stainless steel ring sewn into the hem of the liner.



1. Flanged liner
2. Can be weighted with a stainless steel ring sewn into the hem (if required)

Liners to Combat Wear

The life of a diaphragm cannot be easily quantified, as there are many variables that need to be considered, such as;

- Number of operations per day.
- The amount of material passed over the diaphragm each day.
- The abrasiveness of the material handled etc.

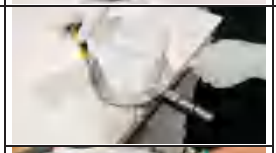
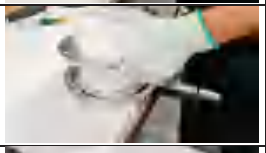
In our experience the life of a diaphragm can vary between a few months and many years. Where the life of the diaphragm can be measured in months, it is often beneficial to consider the use of a liner.
The liner material most frequently used for combating abrasion is T893 red rubber. This natural rubber liner offers a better level of resistance to abrasion than steel. Where a T893 liner is used, it is important that a fabric diaphragm is installed with the Iris valve to effect a tight shut off.
For in-line, heavy bulk density product applications, a double flanged liner can be used.
Various powdered materials exert differing pressures on a diaphragm. Normally a iris Diaphragm Valveis easily operated. However, on occasions some free flowing products can exert a high static load on to the valve, making the control lever difficult to operate. This situation arises because;

1. The load exerted by the product forces the various layers of the iaphragm material tightly together, making the Control Lever difficult to operate.
2. It has been observed that when a Iris Diaphragm Valve operates, the material in the columnadjacent to the ‘top face’ of the valve tries to also turn as the valve is opened.Both of these problems can be eliminated by the use of a liner.

INSTALLATION OF A IRIS VALVE

The versatile iris diaphragm valve

Removal of the old Diaphragm

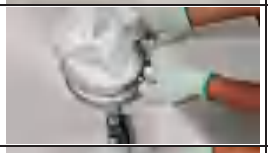
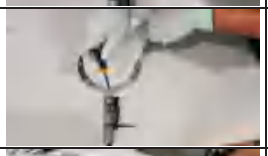
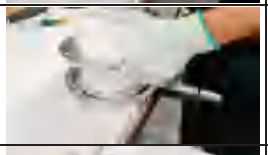
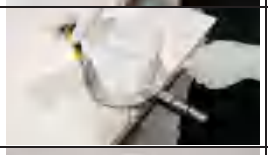
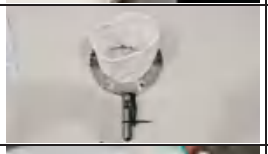
No.	English	Photo	China	German
1	Remove the top clamp ring screws and clamp ring.		拆下顶部夹环螺钉和夹环。	Senkschrauben im oberen Klemmring ü ber Kreuz lö sen. Oberen Klemmring entfernen.
2	Turn the valve over and remove the bottom clamp ring screws and clamp ring.		将阀门翻过来，拆下底部夹环螺丝和夹环。	Verschlu ß umdrehen. Senkschrauben im unteren Klemmring über Kreuz lö sen. Unteren Klemmring entfernen.
3	Pull up the diaphragm and work out the wire.		拉起隔膜并找出钢丝。	Manschetten-Oberteil herausziehen. Drahtring im oberen Manschettensaum entfernen.
4	Turn the valve over and remove the lower diaphragm wire		将阀门翻过来，拆下下隔膜钢丝。	Verschluß umdrehen. Drahtring im unteren Manschettensaum entfernen.
5	Remove body screws and lift off the body	 	拆下机身螺丝，取下壳体。	Senkschrauben aus Verschlu ß kö rper entfernen. Verschlu ß kö rper auseinandernehmen.
6	Lift out control ring and diaphragm complete.		取出控制环和隔膜。	Drehring zusammen mit der Manschette herausnehmen.
7	Remove clamp ring screws and clamp ring. Lift out old diaphragm.		拆下夹环螺丝和夹环。取出旧隔膜。	Klemmringschrauben am Drehring über Kreuz lö sen, Klemmring entfernen und Manschette herausnehmen.

Dimensions in mm

INSTALLATION OF A IRIS VALVE

The versatile iris diaphragm valve

Fitting the Replacement Diaphragm

No	English	Photo	China	German
1	Arrange diaphragm as shown with the larger end through the centre. Pass wire through pocket in centre hem. (This may be supplied already fitted) Work wire through until wire ends are 25 mm past vertical seam.		如图所示排列隔膜，较大的一端穿过中心。 将金属丝穿过中央下摆的口袋。（这可能已安装）将钢丝线穿过，直到钢丝末端超过垂直接缝 25 毫米。	Neue Manscette —gemäß Abbildung mit der lä ngeren Hä lfte innen angeordnet — vorbereiten und Drahtring durch Tasche im mittleren Manschettensaum einschieben. (Dies wird i. d. R bereits fertig geliefert) Drahtring durchschieben, bis sich die Drahtenden 25 mm hinter dem vertikalen
2	Lay the diaphragm in the control ring wire groove. Align the vertical seam with the control ring handle.		将隔膜放在控制环线槽中。将垂直接缝与控制环手柄对齐。	Manschette in Nut des Drehrings einlegen. Vertikalen Saum nach Handhebel am Drehring ausrichten.
3	Position clamp ring over diaphragm. Screw down using clamp ring screws.		将夹环放在隔膜上。使用夹环螺钉拧紧。	Mittleren Klemmring über Manschette ziehen und auf den Drahtring positionieren. Mit Senkschrauben am Drehring über Kreuz befestigen.
4	Push diaphragm through body ring (with notches) with trigger downwards.		将膜片推过阀体环（带槽口），扳机向下。	Montierte Manschette durch Verschlu ß kö rper-Unterteil (mit Rastkerben) hindurchf ü hren, dabei muß der Feststeller nach unten zeigen.
5	Screw down other body half, with the groove outside. Turn assembly over.	 	拧紧另一半，凹槽在外面。转动组装结束。	Verschlu ß kö rper-Oberteil mit der Nut nach auß en anschrauben. Verschlu ß umdrehen.
6	Rotate control ring handle fully anti-clockwise (away from notches) NOTE: Number of notches may vary. Coat outer surface of diaphragm with silicone grease (Rubber diaphragms only)		逆时针完全旋转控制环手柄（远离槽口）注：槽口数量可能会有所不同。涂层外表面带硅脂的隔膜（仅限橡胶隔膜）	Handhebel gegen den Uhrzeigersinn ganz aufdrehen (Pos. Gegen über den Rastkerben, deren Anzahl variabel ist). Bitte eachten: Die Anzahl der Rastkerben kann differieren. Manschettenau ß enseite gut mit Silicon- Spray benetzen (nur bei Gummi-Manschetten).
7	Push inner part of diaphragm into valve. Pass wire through the upper diaphragm pocket in vertical seam.		将隔膜的内部推入阀门。将钢丝线穿过垂直接缝中的上隔膜袋。	Inneres Manschettenteil durch Verschlu ß ziehen. Drahtring durch Tasche im oberen Manschetten- saum einschieben.
8	Work wire through until wire ends are 25 mm past the vertical seam.		将钢丝线穿过，直到钢丝线末端超过垂直接缝 25 毫米。	Drahtring durchschieben, bis sich die Drahtenden 25 mm hinter dem vertikalen Saum befinden.
9	Coat outer surface of diaphragm with silicone grease (Rubber diaphragms only) . Check lever is fully anti- clockwise (away from notches) Lay the wired hem in the groove and position vertical seam as shown.		用硅脂涂抹隔膜的外表面（仅限橡胶隔膜）。检查杆完全逆时针方向（远离槽口） 将有线下摆放在凹槽中，并如图所示定位垂直接缝。	Manschettenau ß enseite gut mit Silicon-Spray benetzen (nur bei Gummi-Manschetten) · Stellung desHandhebels nochmals überpr üfen. Oberen Manschettensaum in Nut einlegen und vertikalen Saum It. Zeichnung positionieren (ca. 15˚)

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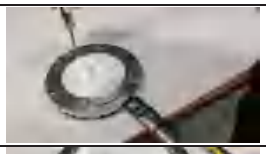
Dimensions in mm

INSTALLATION OF A IRIS VALVE

The versatile iris diaphragm valve

10	Screw down top clamp ring. (Top clamp ring has smaller inside diameter with an internal chamfer)		拧紧顶部夹环。（顶部夹紧环的内径较小，带有内部倒角）	Oberen Klemmring über Kreuz anschrauben. (Oberer Klemmring hat einen geringren Innendurchmesser und eine Fase auf der Innenseite)
11	Turn assembly over and fit diaphragm wire (sec 7 & 8) and position seam as shown.		将组件翻转过来，安装隔膜线（第 7 和 8 节）并如图所示定位接缝。	Verschlu ß umdrehen. Drahtring in die Tasche im unteren Manschettensaum einschieben (Abschn. 7 + 8) und lt. Zeichnung positionieren.
12	Screw down the clamp ring.		拧下夹环。	Unteren Klemmring über Kreuz anschrauben.
13	Rotate the control handle to engage first notch. If top half of diaphragm does not fully close, open valve again and slacken clamp ring screws. Rotate vertical seam 20 ˚ from handle (sec 9) tighten screws and recheck. NOTE: Bottom half of diaphragm should not fully close on non-stretch fabric and coated fabric diaphragms. If this occurs, reset as above but set seam 5 ˚ clockwise from handle.		旋转控制手柄以接合第一个槽口。如果隔膜的上半部分没有完全关闭，请再次打开阀门并松开夹环螺钉。将垂直接缝从手柄旋转 20˚（第 9 节重新检查。）拧紧螺钉并注意：隔膜的下半部分不应完全闭合在非弹力织物和涂层织物隔膜上。如果发生这种情况，请按上述方法重新设置，但将接缝从手柄顺时针设置 5˚。	Hanhebel bis zur ersten Rastkerbe drehen. Wenn die obere Hä lfte der Manschette nicht ganz schließ t, Verschlu ß wieder ö ffnen und Klemmring- Schrauben lö sen. Vertikalen Saum auf 20 ˚ vom Handhebel verdrehen (Abschn. 9) , Schrauben anziehen. Nochmals überpr üfen. Bitte beachten: Untere Manschettenhä lfte darf bei nicht dehnbarem und bei beschichtetem Manschettenmaterial nicht ganz schließ en. Ist dies der Fall, Manschetten- Unterteil demontieren und vertikalen Saum 5 ˚ im Uhrzeigersinn verdrehen. Klemmring wieder verschrauben.

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Dimensions in mm

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