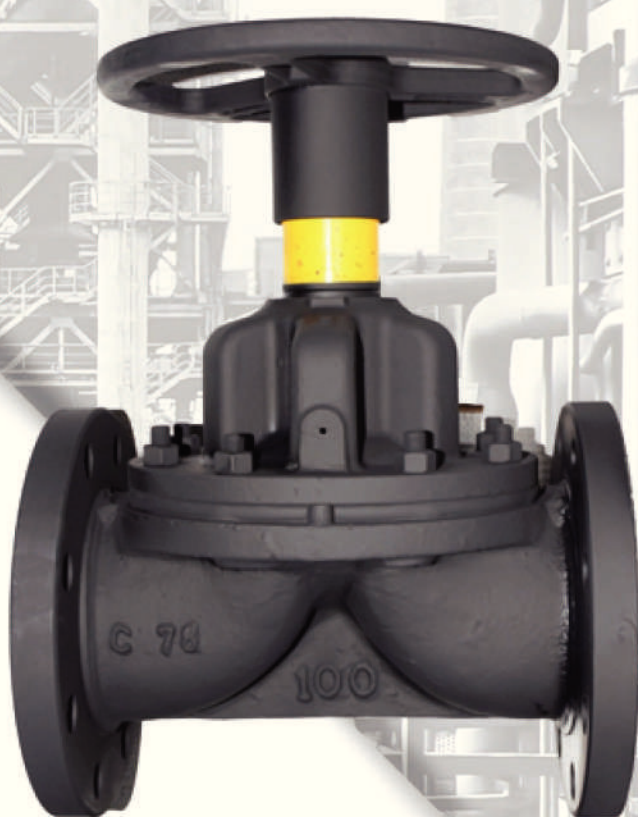


**RHINO FLEX**™



**MODEL SH / R**



**DIAPHRAGM  
VALVES**

## WEIR-TYPE DIAPHRAGM VALVE

RHINOFLEX Diaphragm valves are bi-directional, on-off throttle valves. They are used to control fluid flow by regulating the area with which media can enter and exit the valve, effectively changing its speed and velocity.

### SPECIFICATIONS

Sizes Range	1/2" to 12" (DN15 to DN300)
Pressure Rating	PN 3.5 to PN 16
Design Standard	BS EN 13397
Actuation	Manual / Pneumatic/ Electric Actuator / Chainwheel
Configurations	Rising and Non Rising Handwheel / Travel stop / Pad lock



### DESIGN FEATURES

- RHINOFLEX Weir Type Diaphragm Valves are extensively used in Mineral processing, Water treatment industries, and Corrosive media.
- The Weir type valve operates and closes 100% leak-tight even after thousands of operations under pressure as well as vacuum.
- The raised weir reduces the amount of diaphragm travel from the fully open to the fully closed position, thus reducing the amount of stress and strain in the diaphragm.
- The weir-type valve is mostly specified for clean, homogeneous fluids, as viscous slurries and sediments may build up on either side of the saddle.
- Weir Type valve can be installed in any position without affecting its operating efficiency.
- Actuation types include manual, electric motor, pneumatic and more advanced control system actuators.

## STRAIGHT-TYPE DIAPHRAGM VALVE

RHINOFLEX Diaphragm valves are bi-directional, on-off throttle valves. They are used to control fluid flow by regulating the area with which media can enter and exit the valve, effectively changing its speed and velocity.

### SPECIFICATIONS

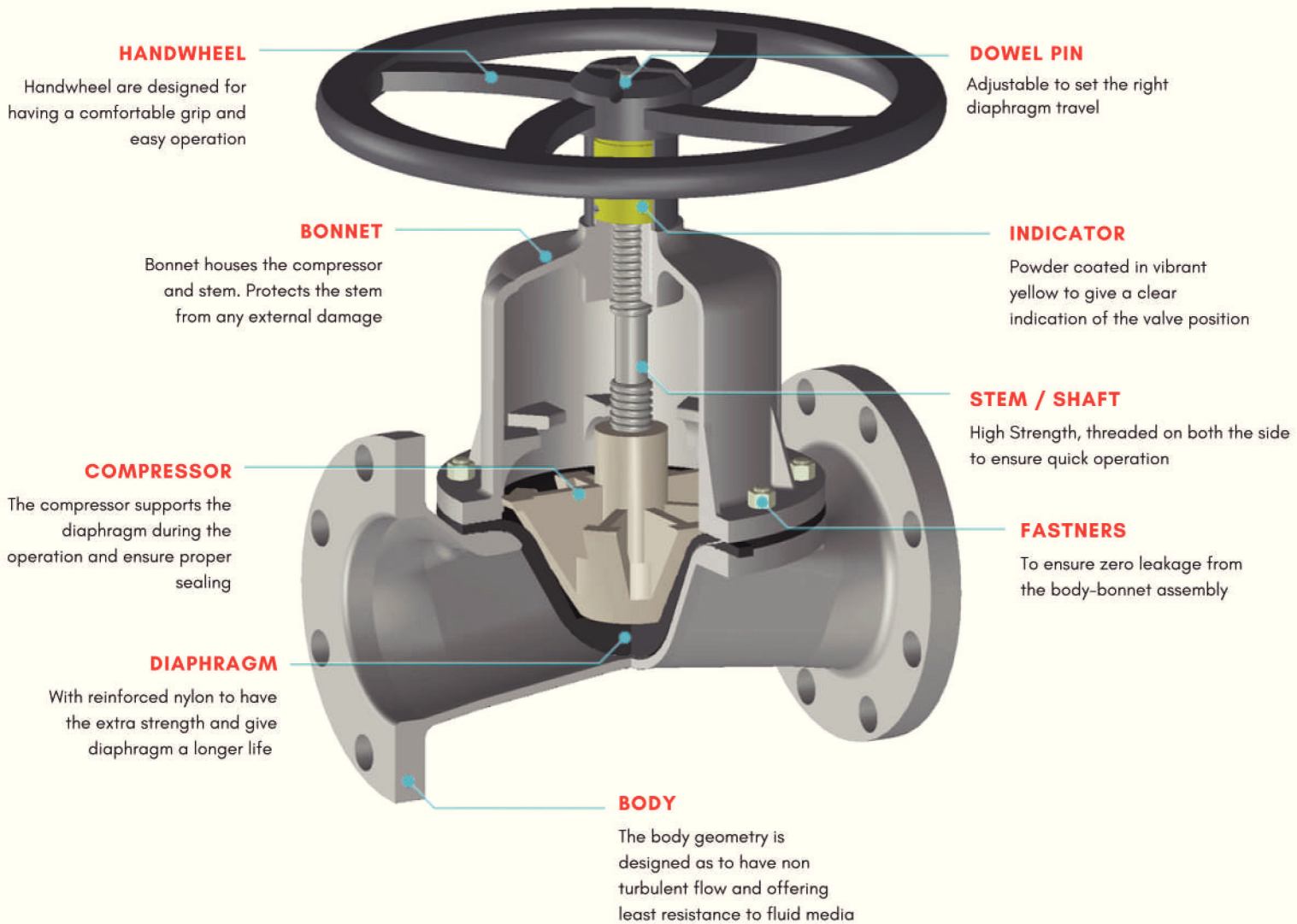
Sizes Range	1/2" to 12" (DN15 to DN300)
Pressure Rating	PN 3.5 to PN 10
Design Standard	BS EN 13397
Actuation	Manual / Pneumatic/ Electric Actuator / Chainwheel
Configurations	Rising and Non Rising Handwheel / Travel stop / Pad lock



### DESIGN FEATURES

- RHINOFLEX Straight Type Diaphragm Valves are extensively used in resisting the erosive effects of corrosive /abrasive line media.
- The straight type is designed as a full bore to have a smooth and non turbulent flow, offering least resistance while allowing easy cleaning.
- The conical shaped flexible diaphragm ensures consistent leak tightness even when solids, powders and dry media are present.
- The straight type is specially used to avoid viscous slurries and sediments build up which is possible by the straight through design.
- Straight Type valve can be installed in any position without affecting its operating efficiency.
- Actuation types include manual, electric motor, pneumatic and more advanced control system actuators.

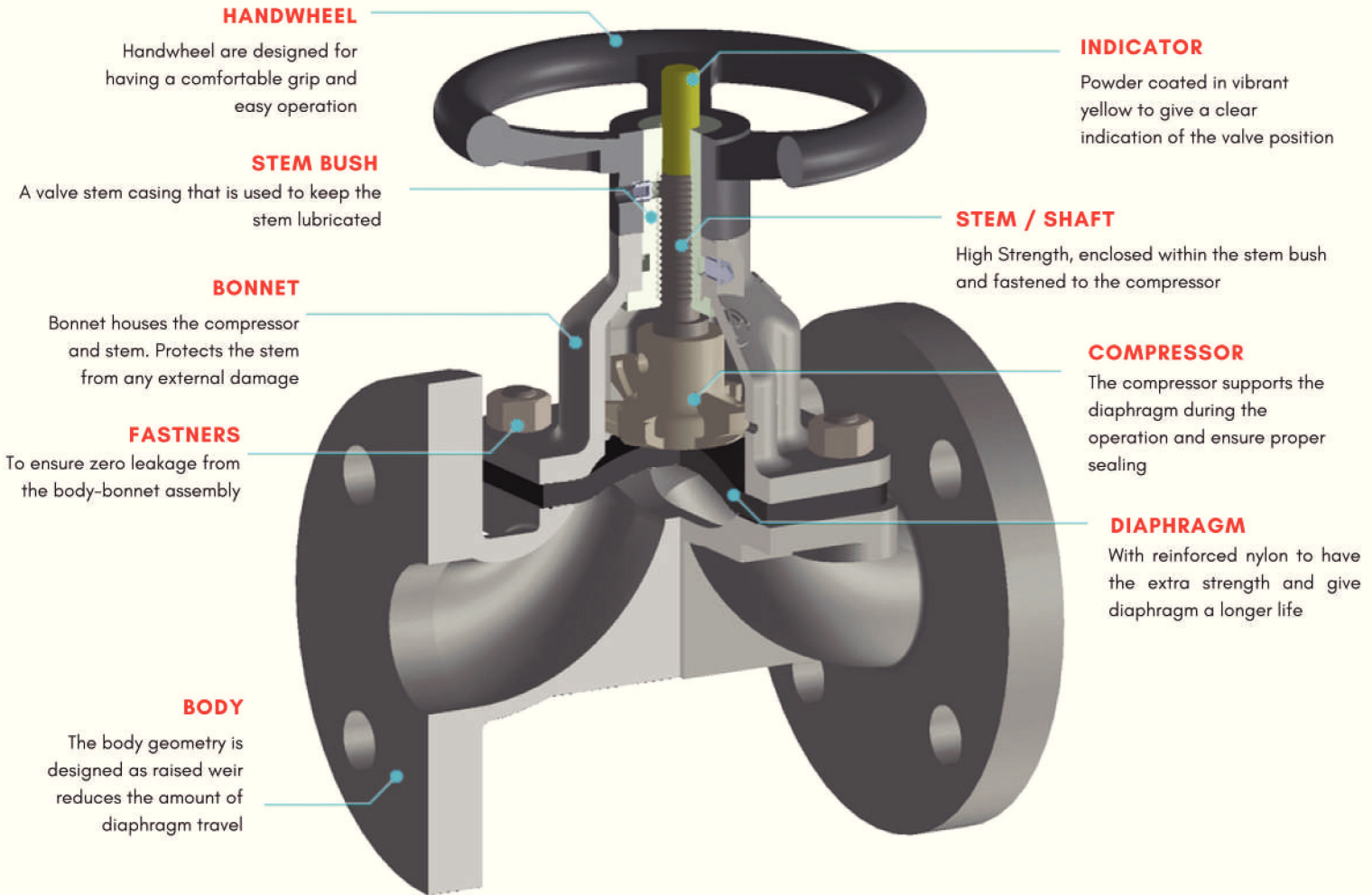
## PART LIST | RISING HANDWHEEL



## MATERIAL OPTIONS

Body / Bonnet / Compressor	Cast Iron ASTM A126 Class B/EN-1561 No.EN-11040/SG Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Stem / Shaft	SS410 / SS304 / SS316
Diaphragm	Natural / Butyl / Neoprene / Hypalon / EPDM / PTFE / Polyurethane
Lining	Natural / Butyl / Ebonite / Neoprene / Hyplon / EPDM / PTFE / Halar/ PP / PVDF / Polyurethane
Fastners	Steel Gr. 4.6/4/ 8:8/ B8-B8M

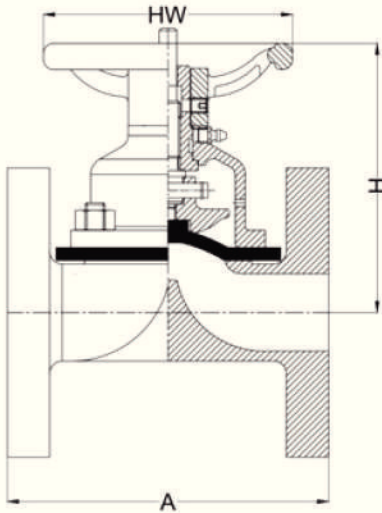
## PART LIST | RISING INDICATOR / NON RISING HANDWHEEL



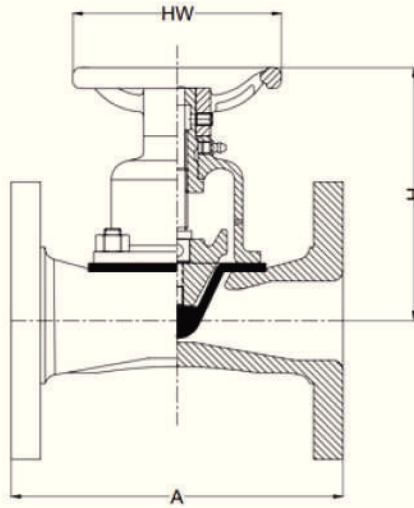
## MATERIAL OPTIONS

Body / Bonnet / Compressor	Cast Iron ASTM A126 Class B/EN-1561 No.EN-11040/SG Iron EN-1563 No.EN-JS1024, Cast Steel ASTM A743 Gr. CC50 / ASTM A216 Gr. WCB / Stainless Steel : ASTM A351 Gr. CF8 / CF8M / CN7M
Stem / Shaft	SS410 / SS304 / SS316
Diaphragm	Natural / Butyl / Neoprene / Hypalon / EPDM / PTFE / Polyurethane
Lining	Natural / Butyl / Ebonite / Neoprene / Hypalon / EPDM / PTFE / Halar/ PP / PVDF / Polyurethane
Fastners	Steel Gr. 4.6/4/ 8:8/ B8-B8M

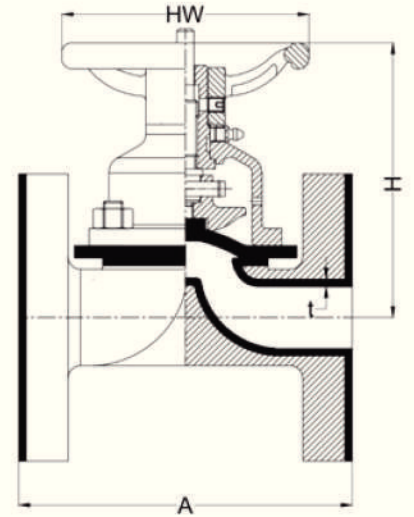
## DIMENSIONAL DETAILS | NON RISING HANDWHEEL



MODEL R



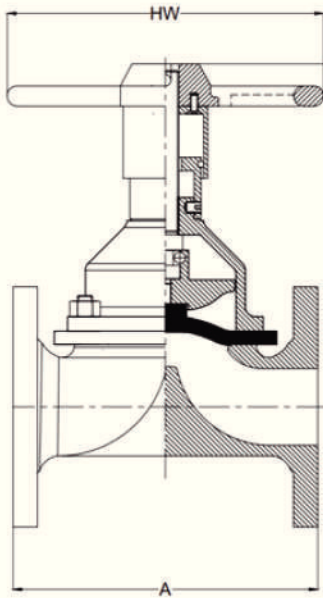
MODEL SH



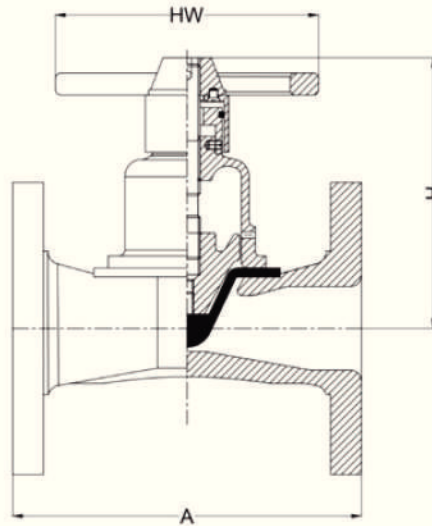
LINED BODY

Size		A			Model R		Model SH		t
Inches	DN	BS		DIN	H	ØHW	H	ØHW	
		Unlined	Rubber Lined	Lined / Unlined					
½"	15	108	114	130	92	70	90	70	3
¾"	20	117	123	150	100	70	90	70	3
1"	25	127	133	160	114	100	112	100	3
1¼"	32	146	152	180	115	100	112	100	3
1½"	40	159	165	200	153	140	112	100	3
2"	50	190	196	230	160	140	146	140	3
2.5"	65	216	222	290	180	140	177	180	3
3"	80	254	260	310	233	225	205	225	3
4"	100	305	313	350	256	225	244	225	4
5"	125	356	364	400	306	310	272	310	4
6"	150	406	414	480	368	380	433	380	4
8"	200	521	529	600	479	471	420	380	4
10"	250	635	645	730	585	587	545	587	5
12"	300	749	759	850	689	690	640	587	5

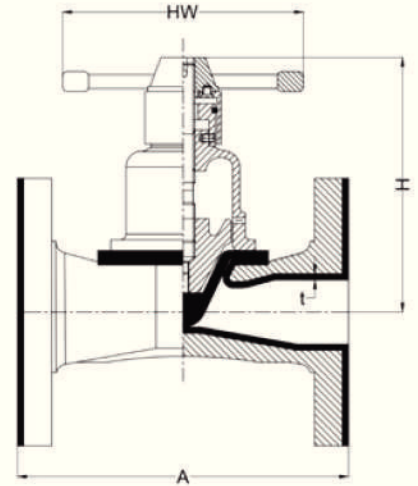
## DIMENSIONAL DETAILS | RISING HANDWHEEL



MODEL R



MODEL SH

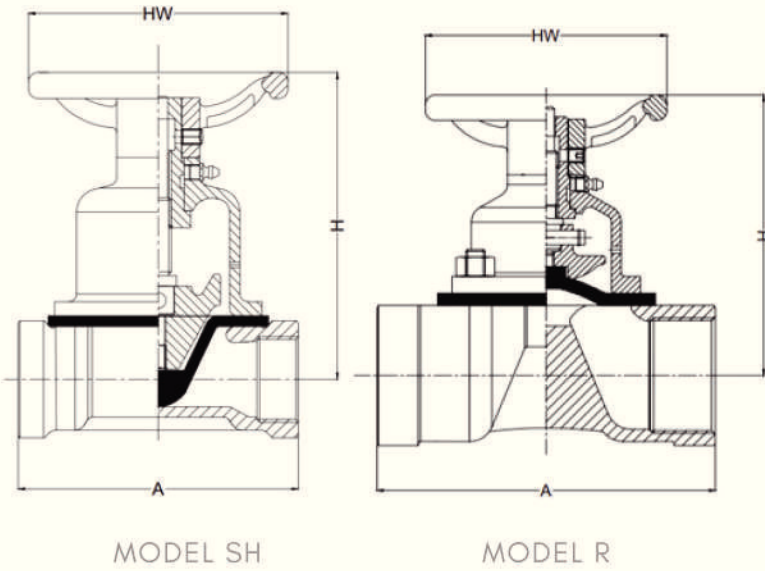


LINED BODY

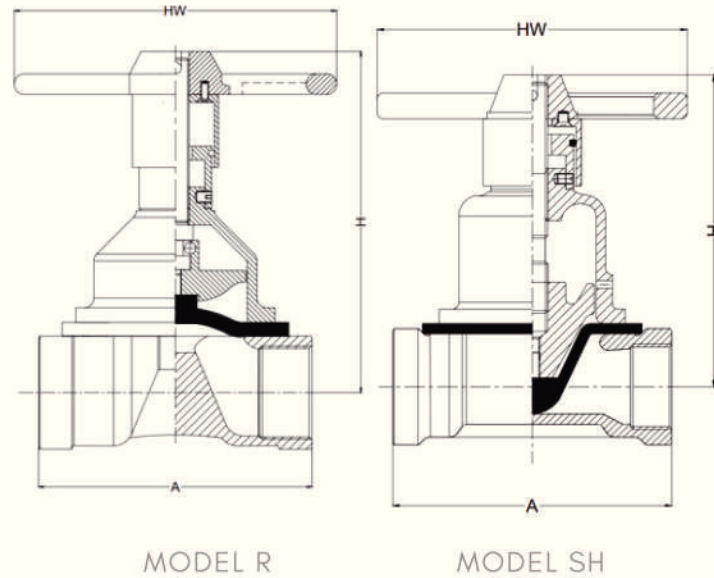
Size		A			Model R		Model SH		t
Inches	DN	BS		DIN	H	ØHW	H	ØHW	
		Unlined	Rubber Lined	Lined / Unlined					
½"	15	108	114	130	109	100	110	100	3
¾"	20	117	123	150	120	100	110	100	3
1"	25	127	133	160	149	120	136	120	3
1¼"	32	146	152	180	162	120	136	120	3
1½"	40	159	165	200	175	165	136	120	3
2"	50	190	196	230	190	165	203	165	3
2.5"	65	216	222	290	253	220	225	220	3
3"	80	254	260	310	294	240	286	240	3
4"	100	305	313	350	327	270	298	270	4
5"	125	356	364	400	392	270	319	270	4
6"	150	406	414	480	462	360	420	360	4
8"	200	521	529	600	638	470	482	470	4
10"	250	635	645	730	616	587	533	600	5
12"	300	749	759	850	679	587	616	600	5

## DIMENSIONAL DETAILS | SCREWED END

### NON RISING HANDWHEEL



### RISING HANDWHEEL



### NON RISING HANDWHEEL

Size		ØHW	A	Model R		Model SH		End Connections
Inches	DN			H	ØHW	H	ØHW	
½"	15	70	64	92	70	90	70	NPT / BSP / SWE / BWE
¾"	20	70	83	100	70	90	70	NPT / BSP / SWE / BWE
1"	25	100	108	114	100	112	100	NPT / BSP / SWE / BWE
1¼"	32	100	121	115	100	112	100	NPT / BSP / SWE / BWE
1½"	40	140	140	153	140	112	100	NPT / BSP / SWE / BWE
2"	50	140	168	160	140	146	140	NPT / BSP / SWE / BWE
2.5"	65	180	203	180	140	177	180	NPT / BSP / SWE / BWE
3"	80	225	254	233	225	205	225	NPT / BSP / SWE / BWE

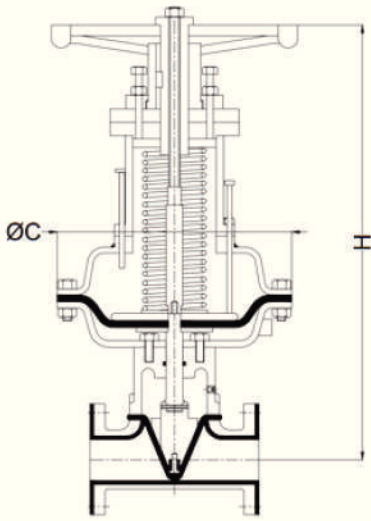
### RISING HANDWHEEL

Size		ØHW	A	Model R		Model SH		End Connections
Inches	DN			H	ØHW	H	ØHW	
½"	15	100	64	109	100	110	100	NPT / BSP / SWE / BWE
¾"	20	100	83	120	100	110	100	NPT / BSP / SWE / BWE
1"	25	120	108	149	120	136	120	NPT / BSP / SWE / BWE
1¼"	32	120	121	162	120	136	120	NPT / BSP / SWE / BWE
1½"	40	165	140	175	165	136	120	NPT / BSP / SWE / BWE
2"	50	165	168	190	165	203	165	NPT / BSP / SWE / BWE
2.5"	65	220	203	253	220	225	220	NPT / BSP / SWE / BWE
3"	80	240	254	294	240	286	240	NPT / BSP / SWE / BWE

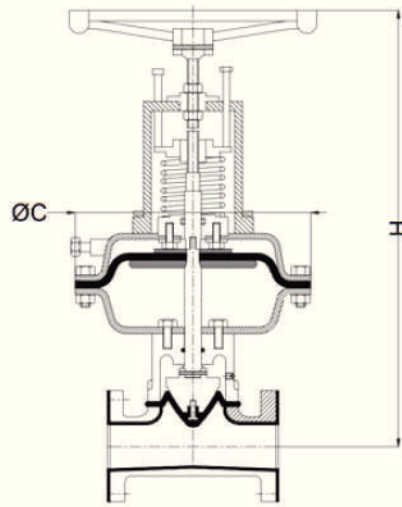


## DIMENSIONAL DETAILS

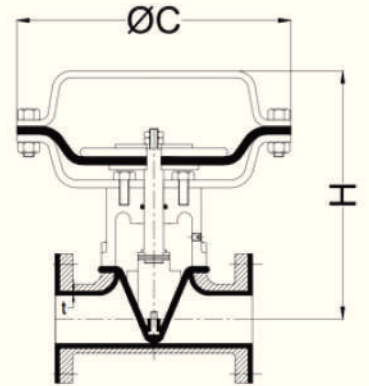
## Model SH with PNEUMATIC ACTUATOR



REVERSE ACTING



DIRECT ACTING



DOUBLE ACTING

Size	DN Inches	15 ½"	20 ¾"	25 1"	40 1½"	50 2"	65 2.5"	80 3"	100 4"	125 5"	150 6"	200 8"
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### REVERSE ACTING (Normally Close)

MODEL	C	H										
AFP116	185	400	410	415	415							
AFQ132	255			500	510	545	570					
AFR108	338					585	605	630				
AFR158	338						720	735	770			
AFS1EF	415						790	815	850			
AFS18F	415						790	815	850			
AFT1EF	462							860	880	1015	1025	
AFW1GH	570								1120	1240	1250	1350

### DIRECT ACTING (Normally Close)

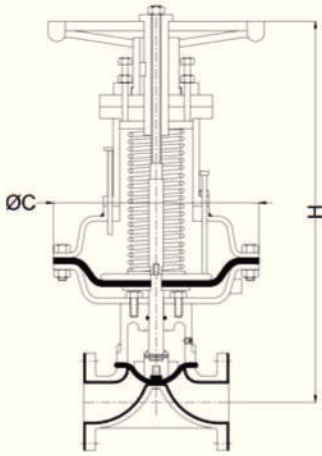
MODEL	C	H										
AFP210	185	360	365	370	370							
AFQ220	255			470	470	500	525	540				
AFR220	338			490	490	525	600	605	650			
AFS230	338							720	765	930	945	
AFT230	415							745	780	955	965	1025
AFW240	570								830	1085	1095	1150

### DOUBLE ACTING (Stay as Is)

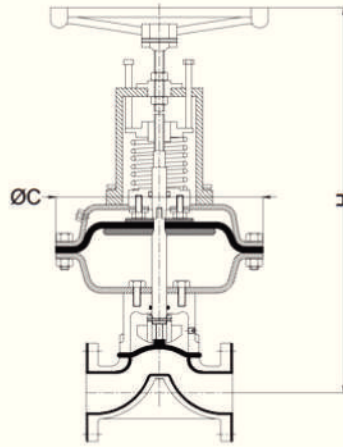
MODEL	C	H										
AFP3	185	140	145	160	160							
AFQ3	255			195	195	220	250	260				
AFR3	338					245	280	285	320			
AFS3	338						300	315	350	420	425	
AFT3	415								360	440	450	635
AFW3	415									490	500	685

## DIMENSIONAL DETAILS

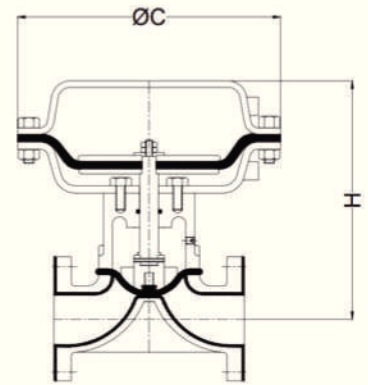
## Model R with PNEUMATIC ACTUATOR



REVERSE ACTING



DIRECT ACTING



DOUBLE ACTING

Size	DN	15	20	25	40	50	65	80	100	125	150	200	250
	Inches	½"	¾"	1"	1½"	2"	2.5"	3"	4"	5"	6"	8"	10"

### REVERSE ACTING (Normally Close)

MODEL	C	H											
AFP116	185	380	400	420	450	475							
AFQ132	255			500	530	545	570	610	660				
AFR108	338			540	570	590	615	650	710				
AFR158	338			660	685	715	735	760	795	850	910		
AFS1EF	415						800	830	860	905	950	1050	
AFS18F	415						855	870	860	915	970	1080	
AFT1EF	462								910	960	1010	1110	
AFW1GH	570								1140	1185	1240	1360	1375

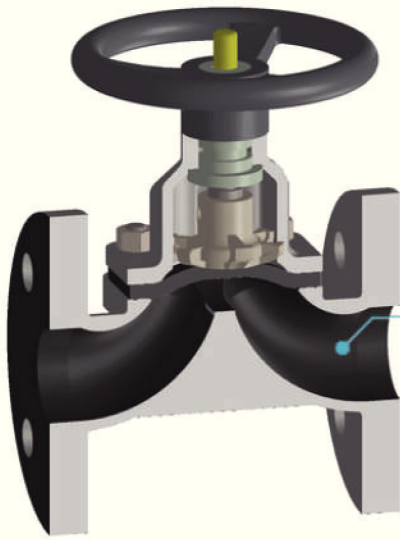
### DIRECT ACTING (Normally Open)

MODEL	C	H											
AFP210	185	370	370	380	410	415							
AFQ220	255			460	495	500	530	575	610	760			
AFR220	338			495	515	525	615	640	660	830	865	980	
AFS230	415						740	740	780	840	940	1100	
AFT230	462							775	785	900	960	1120	1160
AFW240	570								850	965	1010	1160	1200

### DOUBLE ACTING (Stay as Is)

MODEL	C	H											
AFP3	185	130	140	145	175	190							
AFQ3	255			185	205	225	240	260	290	325			
AFR3	338			210	235	245	265	295	315	350	400	490	
AFS3	415						295	315	335	365	420	500	
AFT3	462							320	350	380	430	515	590
AFW3	570								395	420	475	560	635

## TEMPERATURE / LINING DETAILS

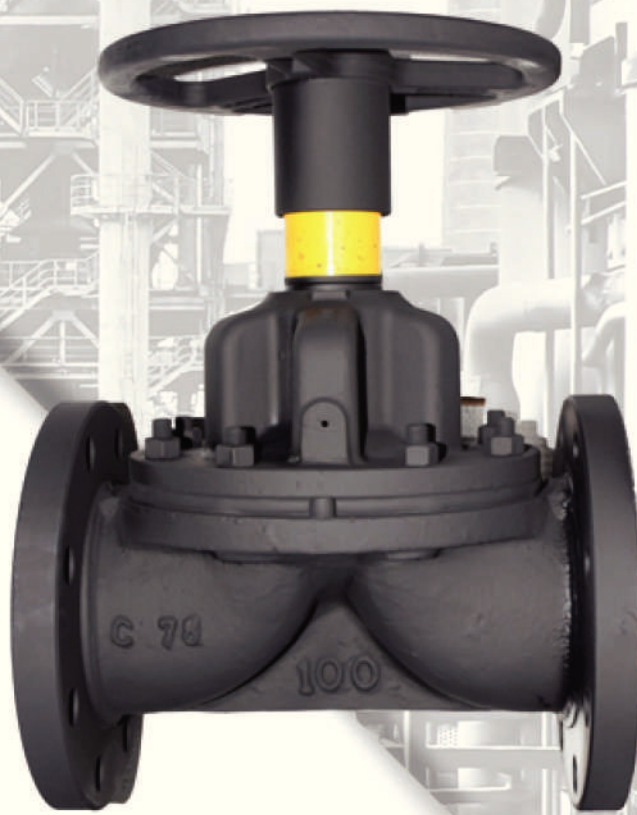


- RHINOFLEX Diaphragm Valves can be lined with various types of Elastomer Linings and Coatings
- Linings and Coating are 100% spark-proof and ensure long life with proper media inflow.
- The right type of lining can be selected based upon the line temperature and media

### RUBBER LINING AND APPLICATION

MATERIAL	APPLICATION	TEMP RANGE °C (°F)	HARDNESS IN SHORE - A	UTS Kg/cm <sup>2</sup> (PSI)
Natural Rubber	Highly Abrasion Resistant	30 To 80 (22 To 176)	45-55	150(2134)
	Abrasion Resistant	30 To 80 (22 To 176)	60-70	150 (2124)
	Mildly Acid Resistant	30 To 80 (22 To 176)	65-75	170 (2418)
Butyl Rubber	Steam Sterilisation	25 To 120 (13 To 248)	60-70	100(1422)
Neoprene Rubber	Water Treatment	25 To 95 (13 To 203)	60-70	120 (1707)
	Caustic Soda	25 To 95 (13 To 203)	60-70	120 (1707)
	Diluted Acid Resistant	25 To 95 (13 To 203)	60-70	120 (1707)
Silicon Rubber	High Temperatures	100 To 250 (148 To 482)	55-65	70 (996)
Viton Rubber	Aromatics Chlorine	5 To 150 (23 To 302)	70-80	70 (996)
White Natural Rubber	Food & Pharmaceuticals	10 To 80 (14 To 176)	55-65	100(1422)
Nitrile Rubber	Oils and Fats	10 To 90 (14 To 194)	65-75	120 (1707)
Ethylene Propylene	Radio Active Materials	30 To 150 (22 To 302)	65-75	80 (1138)
PTFE	All Chemicals and Food	30 To 175 (22 To 347)	-	-
Hypalon Rubber	Acid Resistant	15 To 100 (5 To 212)	60-70	80 (1138)
ECTFE (HALAR)	Acid Resistant	-76 To +150 (-105 to +300).	-	-
POLYURETHANE	Very High Abrasion Resistant	1-65 (-30-150)	60-95	

# RHINOFLEX™



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