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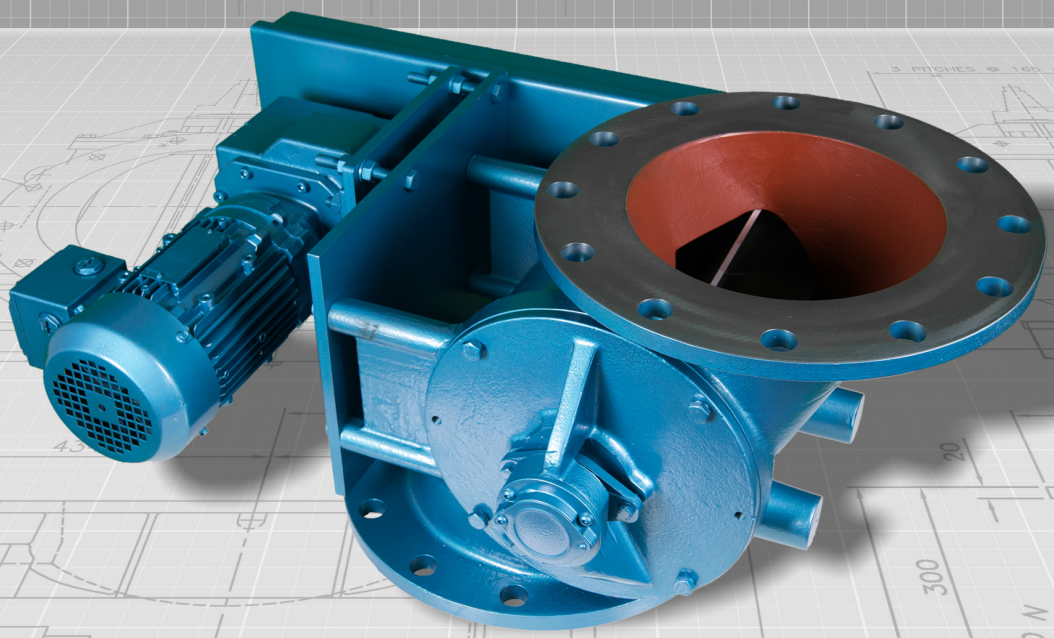
OFFSET ROTARY VALVES



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INTRODUCTION

The main function of a Rotary valve is a to regulate the flow of materials from one chamber to another while maintaining a good airlock condition. The material or product being handled is usually dry free flowing powder, dust or granules.

The granule type of product, especially if it is a hard type: plastic; polyethylene; nylon etc., does not shear easily and consequently, without considerable care the standard drop-through type of valve can seize and also experience considerable shock loadings.

To minimise these problems the Offset Rotary Valve ensures lower pocket fillage as its design means that the rotor is still being filled in an upward cycle with the pellets falling away at a shear point. Similarly, the pelican beak distributes the product across the full width of the rotor.

IMPORTANT FEATURES

- Maximum number of blades in contact with body at one time without affecting throughput
- Good throat opening at valve entry allowing high pocket fillage efficiency
- Robust body adequately stiffened to prevent distortion
- Heavy shaft diameters minimising deflection
- Outboard bearings for non-contamination
- Packing gland type seals
- Maximising valve speed to 25 RPM prolonging life, ensuring good throughput
- Precision machining of components
- Options available for specialisation

SPECIFICATION

BODIES
Cast Iron, Stainless Steel or Aluminum precision bored

END COVERS
Cast Iron, Stainless Steel or Aluminum spigot located in body for concentricity

ROTOR
Fabricated Mild or Stainless Steel

BEARINGS
Generally sealed-for-life-ball type rigged outboard or high temperature above 480°F

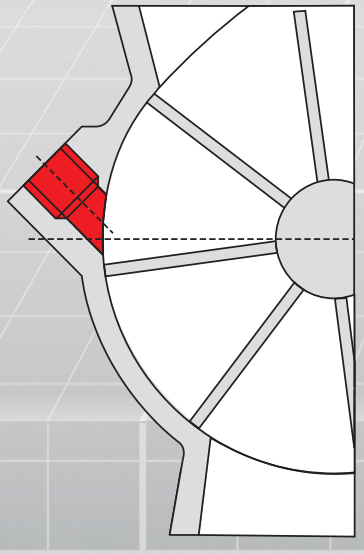
SHAFT SEAL
Gland type with PTFE packing

DRIVE
TEFC geared motor unit side wall mounted to valve body and complete with taper lock sprockets chain drive all in an enclosed guard

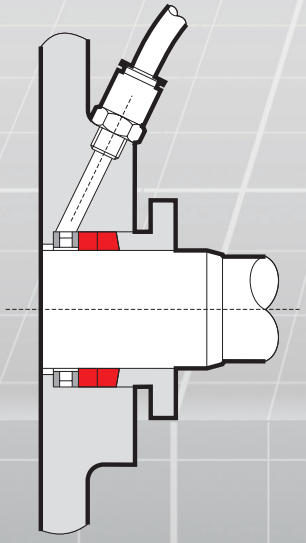
OPTIONS

We have several additional options available including:

- Body Vents
- Air Purge Glands
- Quick Release Rotors
- Direct Coupled Drives
- Hard Chrome Internals
- Electro-less Nickel Plating
- Shear Plate Deflectors
- Speed Switches
- Dropout Boxes
- V.S. Drives
- Flameproof Motors
- Vent Boxes etc.



BODY VENT



AIR PURGE GLAND

Dimensions are approximate and subject to change without notice
Planning-in detail for general guidance only
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Drillings are Rotolok standards. Variations can be made.

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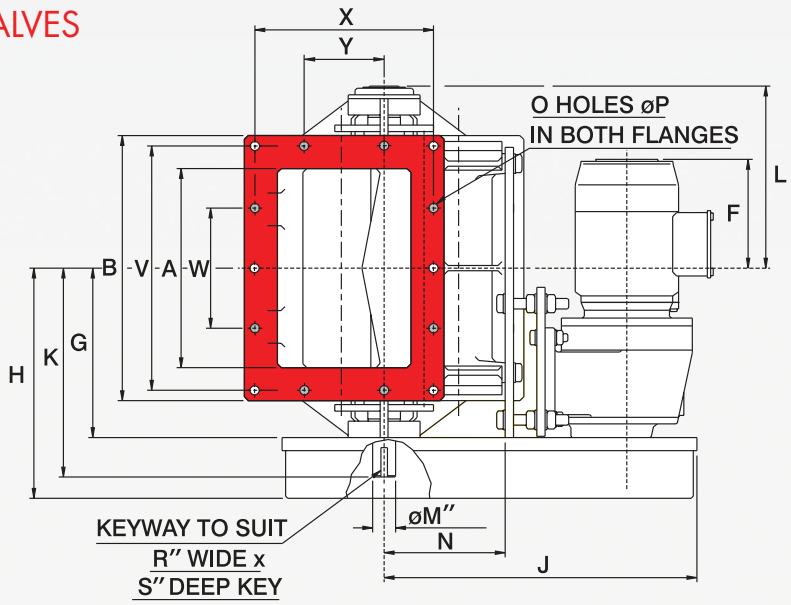
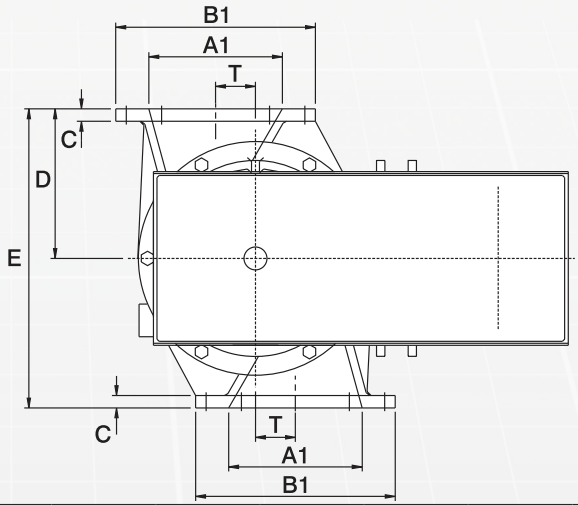
OFFSET SQUARE VALVES





All dimensions are in inches

SIZE	A	A1	B	B1	C	D	E	F	G	H	J	K
8"	7 ⅞"	6"	12"	10"	½"	6 ½"	13"	14 ⅝"	7 ⅞"	11 ⅛"	17 ¼"	10 ¼"
10"	10"	7"	14"	11"	⅝"	8"	16"	11 ⅞"	9"	12 ¼"	18 ⅞"	11 7⁄16"
12"	12"	8"	16"	12"	¾"	9"	18"	11 ⅝"	10 ¼"	14 ¼"	20 ⅛"	12 ⅝"
16"	16"	10"	22"	16"	⅞"	11"	22"	7 ¾"	13 ⅛"	17 ⅛"	24 ⅝"	15 ⅞"
18"	18"	11"	24"	17"	⅞"	12 ⅞"	25 ¾"	8 ⅞"	14"	18"	26 ¼"	16 ½"
20"	20"	12"	26"	18"	1"	14 3⁄16"	28 ⅜"	7 ⅞"	15"	19"	26 ¼"	17 ⅞"

SIZE	L	M	N	O	P	R	S	T	V	W	X	Y	HP
8"	8 ⅝"	28mm	5 ¼"	8	9⁄16"	8mm	7mm	1 ⅝"	10 ¾"	7"	8 ¾"	5"	1
10"	9 ¾"	35mm	6 ⅛"	8	9⁄16"	10mm	8mm	1 ⅞"	12 ¾"	6"	9 ¾"	6"	1
12"	11"	35mm	7 ¼"	8	9⁄16"	10mm	8mm	2 ⅜"	14 ¾"	7 ¼"	10 ¾"	6 ½"	1½
16"	13 ⅞"	50mm	9 ¼"	14	¾"	14mm	9mm	3 ⅜"	20 ¼"	10 ½"	14 ¼"	6"	1 ½
18"	14 ⅞"	50mm	10 ¼"	14	¾"	14mm	9mm	3 ⅜"	22 ¼"	11"	15 ¼"	6"	2
20"	15 ¾"	50mm	11 ¼"	14	¾"	14mm	9mm	3 ⅞"	24 ¼"	12"	16 ¼"	6"	3

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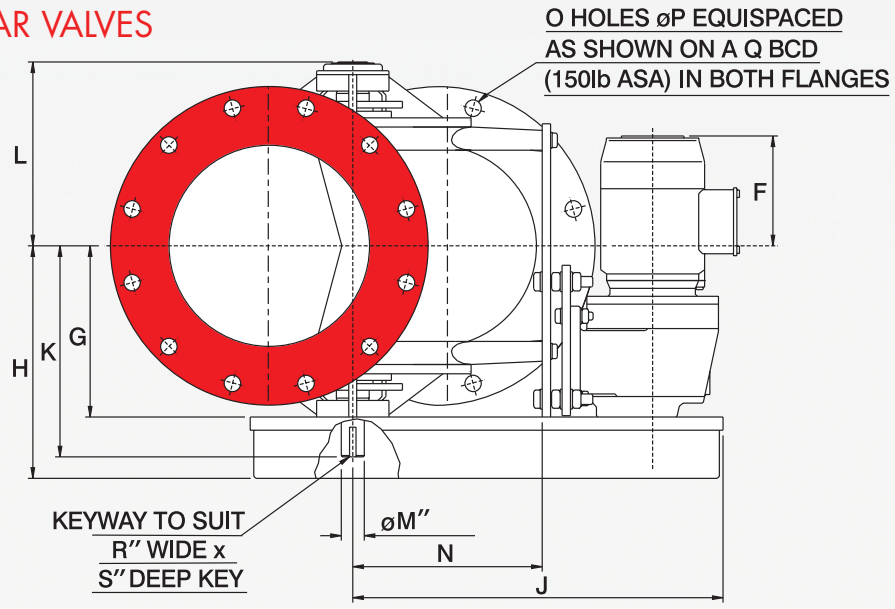
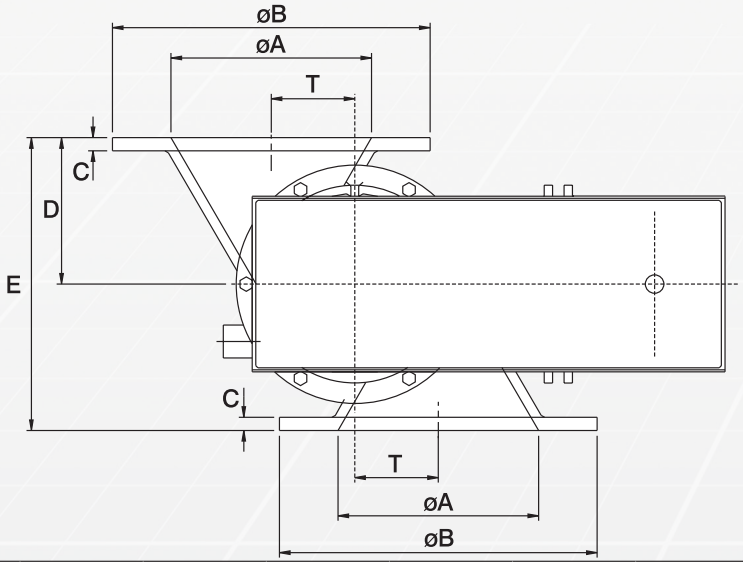
OFFSET CIRCULAR VALVES





All dimensions are in inches

SIZE	ØA	ØB	C	D	E	F	G	H	J	K
8"	8"	13 ½"	⅝"	6 ½"	13"	13"	7 ⅞"	11 ⅞"	20 ⅜"	10 ¼"
10"	10"	16"	¾"	7 ½"	15"	12 ⅞"	9"	12 ¼"	22 ¼"	11 ⅜"
12"	12"	19"	¾"	8 ¾"	17 ½"	10 ⅝"	10 ¼"	14 ¼"	24 ⅝"	12 ⅝"
14"	14"	21"	⅞"	10 ½"	21"	10 ¼"	10 ⅝"	14 ⅝"	25 ⅝"	13"
20"	20"	27 ½"	1"	14"	28"	8 ⅞"	15"	19"	30 ⁹⁄₁₆"	17 ⅞"

SIZE	L	ØM	N	O	ØP	ØQ	R	S	T	HP
8"	8 ⅝"	28mm	7 ⅞"	8	⅞"	11 ¾"	8mm	7mm	3 ⅜"	1
10"	9 ¾"	35mm	9 ¾"	12	1"	14 ¼"	10mm	8mm	4 ¼"	1
12"	11"	35mm	11 ⁵⁄₁₆"	12	1"	17"	10mm	8mm	5"	1 ½
14"	11 ⅜"	35mm	13"	12	1 ⅛"	18 ¾"	10mm	8mm	5 ½"	1
20"	15 ⅞"	50mm	15 ½"	20	1 ¼"	25"	14mm	9mm	7 ⅞"	3

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VALVE SELECTION

The chart below gives theoretical and practical throughputs on the basis or rotor speed.

The theoretical efficiency is seldom achieved in practise as density, product characteristics, pressure differentials, feeding methods etc. all affect valve throughput.

On these considerations the practical figures are assessed and are more acceptable for correct valve selection.

e.g. Select a valve to process 7 1/2 tonnes/hour of flour at 34lb/cu.ft.
Volume required = 7.5 x 2200/34 = 485 cu.ft/hr.

From the chart the 12'' unit running at 14 RPM covers this requirement.

Certain products when fluidised can exceed the conservative ratings. Similarly, light products - 10lb/cu.ft the opposite effect can occur.

CAPACITY CHART IN CUBIC FEET/HR														
VALVE SIZE	20''	205	1024	1639	2048	2458	2868	3277	3687	4097	4506	4916	5326	100%
		205	1024	1557	1743	2163	2466	2753	2986	3196	3334	3490	3622	Practical
	18''	149	743	1189	1487	1784	2082	2379	2676	2974	3271	3568	3866	100%
		149	743	1130	1338	1570	1791	1998	2168	2320	2421	2533	2629	Practical
	16''	104	519	830	1037	1245	1452	1660	1867	2075	2282	2490	2697	100%
		104	519	789	933	1096	1249	1394	1512	1618	1689	1768	1834	Practical
	14''	65.2	326	521	652	782	912	1043	1173	1303	1434	1564	1694	100%
		65.2	326	495	587	688	784	876	950	1016	1061	1110	1152	Practical
	12''	45.4	227	364	454	545	636	727	818	908	999	1090	1181	100%
		45.4	227	363	409	480	547	611	663	708	739	774	803	Practical
	10''	25.6	128	205	256	307	359	410	451	512	564	615	666	100%
		25.6	128	195	230	270	309	344	373	399	417	437	453	Practical
	8''	12.7	63	101	127	152	177	203	228	253	279	304	329	100%
		12.7	63	96	114	134	152	171	185	197	206	216	224	Practical
		1	5	8	10	12	14	16	18	20	22	24	26	
ROTOR SPEED RPM														

NOTES:

THROUGHPUT

Certain products when fluidised can greatly exceed the conservative rating and on application, e.g. cement, 100% pocket fillage has been known to occur. Similarly light products, up to 10lb/cu.ft, the opposite can occur.

TEMPERATURE

On an application above ambient (70°F) it is important to specify operating temperatures so rotor compensation for expansion can be machined as necessary.

CONVERSIONS

Mulitiply cubic feet/hr by 0.0283 to obtain cubic metre/hour.

Theoretical capacity 100% pocket fillage efficiency.

Conservative estimates throughput.

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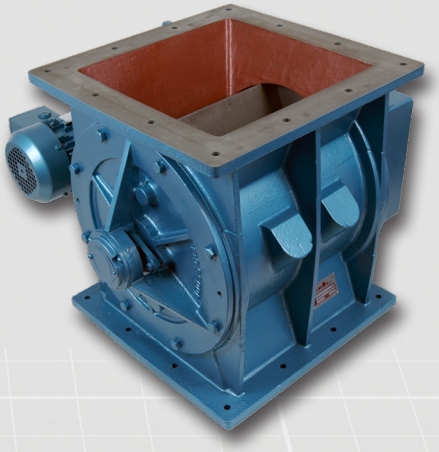
OTHER ROTOLOK PRODUCTS

As well as the Offset Rotary Valves, Rotolok manufacture and supply a range of other products in Cast Iron for use in conveying systems.

These include, but are not limited to: Slide Gates with Pneumatic, Motorised or Manual operation; Rotary Valve; Dust Collector Valve; Roundhead Valve; Blowing Seals and various Diverter Valves.

For more information, please visit our website or contact our sales team.



A Standard Rotary Valve that can be made to suit most applications with a variety of construction materials and rotors

A Cast Iron conveying diverter valve. Available with flanged or spigotted connections to fit existing conveying systems

A typical Blowing Seal with a square inlet used in pneumatic conveying systems.

A Standard Plug Diverter Valve. The valve has a rugged cast iron body and is suitable for abrasive or high pressure applications

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