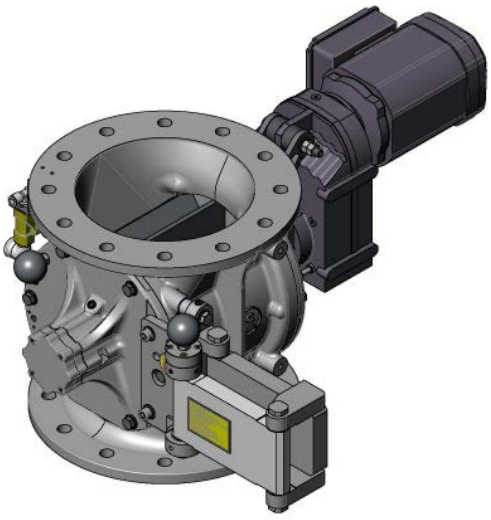
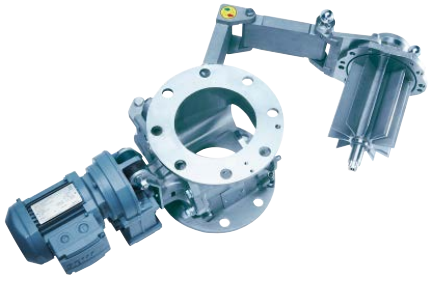
Application

The Coperion ZRD Hygienic (Heavy-Duty Premium) rotary valve is specially designed for sanitary, pharmaceutical, food and chemical applications where contamination is a constant concern, and frequent disassembly and cleaning is required. The ZRD Hygienic includes a full access extraction system and a large inlet for high filling efficiency. Without removing the valve from the system, the ZRD Hygienic can be easily disassembled, cleaned and reassembled. The full access extraction system fully supports the rotor as it is removed for cleaning, making it an ideal method for facilitating endplate and rotor removal. The entire unit is specially designed to avoid contamination with product contact surfaces constructed from DIN 1.4404 [AISI 316L] stainless steel. The ZRD Hygienic is designed according to EHEDG guidelines with pressure differentials up to 1.5 bar(g) [21 psi(g)] and temperatures up to 100°C [212°F].





Standard: ZRD Hygienic with FXS-1 extraction device



Option: ZRD Hygienic with FXS-2 extraction device

Design

- Explosion pressure shock proof: 10 bar(g) [145 psi(g)], due to heavy duty design
- Large inlet/outlet: Without restriction of the cross section for highest capacities
- Outboard bearings with lifetime seal: Separated from product by purged seal arrangement and drop out opening
- Rotor: 10 blades, open-end, rounded pockets, chamfered blades
- Extraction device: FXS-1 (= rotor can be swiveled aside) with quick disassembling coupling on drive side
- Seal purge gas unit (completely mounted): incl. plastic tubing, solenoid valve 24 VDC, 8 W DC, filter regulator, gauge

Technical Data

Standard Mechanical Specifications

- Inlet/Outlet flange: round, drilled acc. to DIN PN 10 or ANSI 150 lbs
- Material of construction: stainless steel DIN 1.4404 [AISI 316L]
- Shaft sealing: two EPDM lip seals (FDA compliant) with diffuser / labyrinth ring, prepared for seal purge
- Material contact surfaces polished 0.8 Ra [150 grit] to [180 grit]
- CE compliant (standard configuration)

Drive

- Direct drive + parallel shaft gear motor: SEW, TEFC inverter duty rated for a 5:1 turndown. Food grade gear oil.
  US Voltage 230/460V, 3 Phase, 60 Hz
  EU Voltage 230/400V, 3 Phase, 50 Hz

Options

Shaft Seals

- Seal purge gas unit (completely mounted): incl. plastic tubing, solenoid valve, filter regulator, gauge

Executions

- USDA compliant, incl. certificate

Coating

- Chrome
- PTFE

Polish

- For further polishes: consult factory

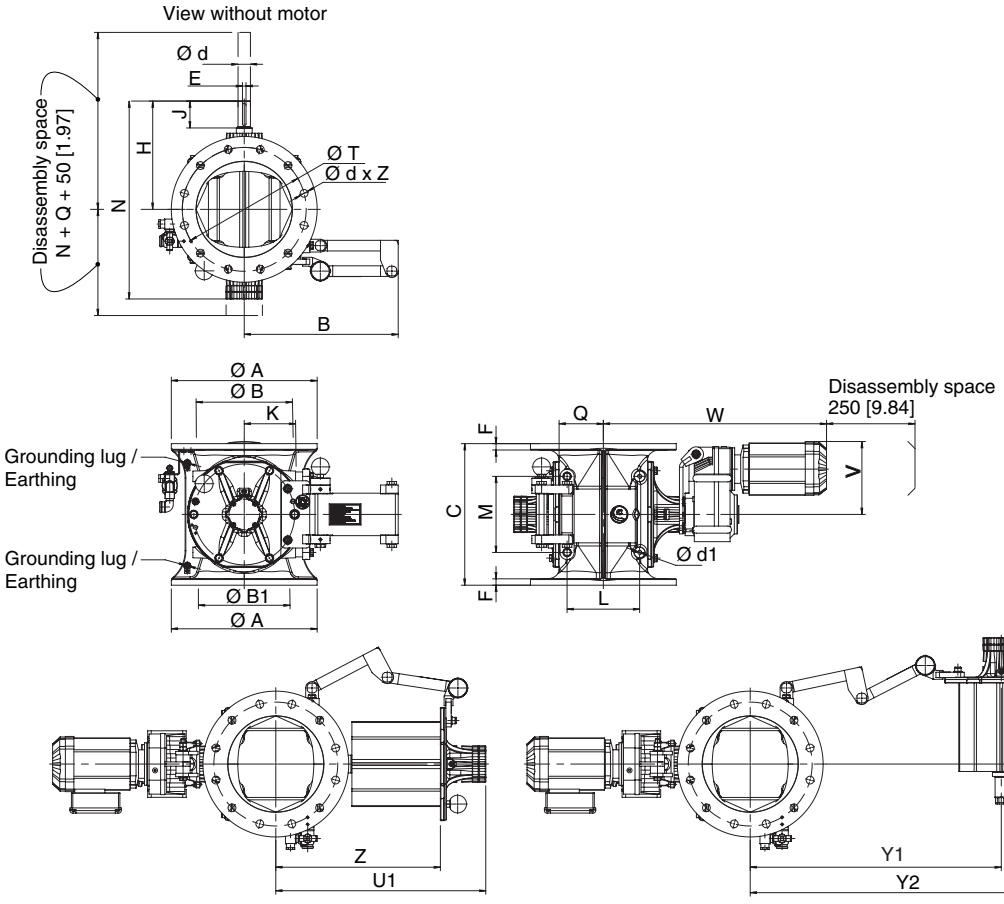
Hazardous Location Options

- Consult factory for NEC or ATEX classifications
- Washdown duty motors
- Protection systems (flameproof for dust ST2) available and consult factory for NFPA type applications or requirements

Accessories

- Floor support stands
- Discharge adapter / Feeding shoe
- Rotation sensor / Speed monitor
- Tool and holder for easy opening of the plates
- Extraction device FXS-2 (= rotor + drive can be swiveled aside)

Dimensions mm [in]



Model	Displacement dm³/rev. [ft³/rev.]	DIN Ø d x Z	DIN T ±0.3 [0.012]	ANSI Ø d x Z	ANSI T ±0.3 [0.012]	ØA	ØB	ØB1	C -0.5 [-0.02]	F	H	N	Q
150	2.5 [0.09]	23 [0.91] x 8	240 [9.45]	23 [0.91] x 8	240 [9.45]	285 [11.22]	166 [6.54]	155 [6.10]	260 [10.24]	11 [0.43]	228.5 [9]	414 [16.30]	92.5 [3.64]
200	5 [0.18]	22 [0.87] x 8	295 [11.61]	22.2 [0.87] x 8	298.5 [11.75]	341 [13.43]	213 [8.39]	207 [8.15]	340 [13.39]	18 [0.71]	276.5 [10.89]	511 [20.12]	106 [4.17]
250	9.5 [0.34]	22 [0.87] x 12	350 [13.78]	25.4 [1] x 12	362 [14.25]	412 [16.22]	272 [10.71]	259 [10.20]	400 [15.75]	18 [0.71]	306 [12.05]	559 [22.01]	125 [4.92]
320	21 [0.74]	22 [0.87] x 12	400 [15.75]	25.4 [1] x 12	431.8 [17]	482 [18.98]	322 [12.68]	310 [12.20]	500 [19.69]	19 [0.75]	369.5 [14.55]	674 [26.54]	157.5 [6.20]
400	42 [1.48]	22 [0.87] x 16	460 [18.11]	28.6 [1.13] x 12	476.3 [18.75]	533 [20.98]	354 [13.94]	341 [13.43]	600 [23.62]	26 [1.02]	430 [16.93]	782 [30.79]	205 [8.07]

Model	Ø d h6	J	E P9	K	L ±0.3 [0.012]	M ±0.3 [0.012]	Ø d1	W (max.)**	V (max.)**	B	U1	Y1	Y2	Y3
150	25 [0.98]	60 [2.36]	8 [0.31]	91 [3.58]	156 [6.14]	180 [7.09]	M12	583.5 [22.97]	220 [8.66]	346 [13.62]	425 [16.73]	461.5 [18.17]	567.5 [22.34]	217 [8.54]
200	30 [1.18]	65 [2.56]	8 [0.31]	120 [4.72]	172 [6.77]	185 [8.28]	M12	682.5 [26.87]	273 [10.75]	375 [14.76]	534 [21.02]	539.5 [21.24]	760.5 [29.94]	249 [9.8]
250	35 [1.38]	76 [2.99]	10 [0.39]	145 [5.71]	205 [8.07]	215 [8.46]	M12	724 [28.5]	289 [11.38]	435 [17.13]	593 [23.35]	626 [24.65]	786 [30.94]	357 [14.06]
320	40 [1.57]	95.5 [3.76]	12 [0.47]	185 [7.28]	275 [10.83]	250 [9.84]	M16	778 [30.63]	297 [11.69]	523 [20.59]	733.5 [28.88]	757.5 [29.82]	957.5 [37.70]	354.5 [13.96]
400	40 [1.57]	100 [3.94]	12 [0.47]	216 [8.5]	365 [14.37]	300 [11.81]	M16	844 [33.23]	320.5 [12.62]	575 [22.64]	781 [30.75]	993 [39.09]	1238 [48.74]	398 [15.67]

Model	Z	Weight kg [lb]*
150	240 [9.45]	50.6 [112]
200	300 [11.81]	68.5 [151]
250	340 [13.39]	101.5 [224]
320	430 [16.93]	171.5 [378]
400	635 [25]	310.5 [685]

NOTES:
* Valve weights shown DO NOT include drive or modifications.
** Dimensions of motor may change. For details refer to order.

Caution: Measurements are for general reference only. Please consult dimensional drawing for exact measurements.

Copyright by K-Tron Technologies, Inc. Covered by patents in USA and foreign countries. Specifications subject to change without notice.