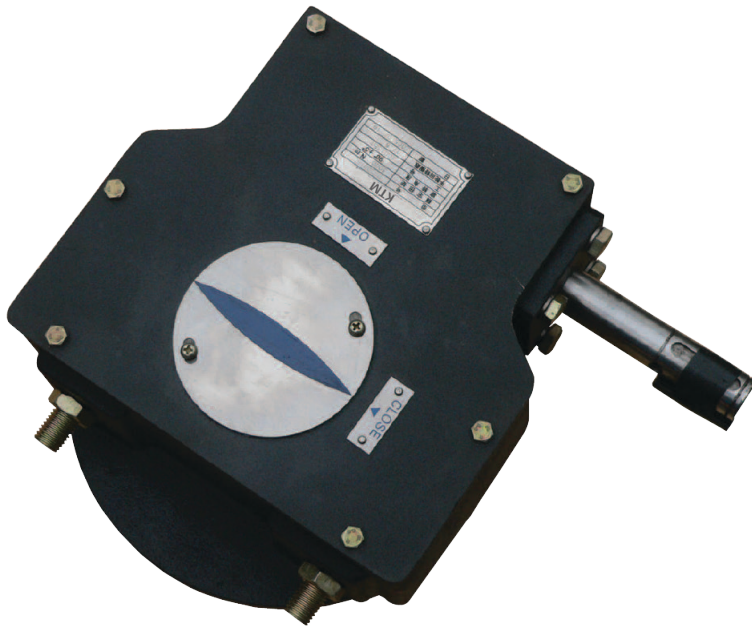




## KTM SERIES OV HEAVY DUTY MANUAL GEAR OPERATOR

Compact design for industrial quarter-turn applications



### FEATURES

- Worm and quadrant style
- Bottom flange is compliant with ISO 5211
- High tensile alloy steel worm as standard, stainless steel on request
- Worm drive with roller bearings has high mechanical efficiency and reliability
- Self-locking type gear unit prevents worm shaft back spin
- Anti-clockwise to open operation
- Angular stroke is adjustable by means of two mechanical stops
- Superb anti-corrosion treatment on all exterior surfaces
- Lubricated gear train for longer life

### GENERAL APPLICATION

The KTM Series OV heavy duty manual gear operators are suitable for quarter-turn valves such as ball valves and butterfly valves.

### TECHNICAL DATA

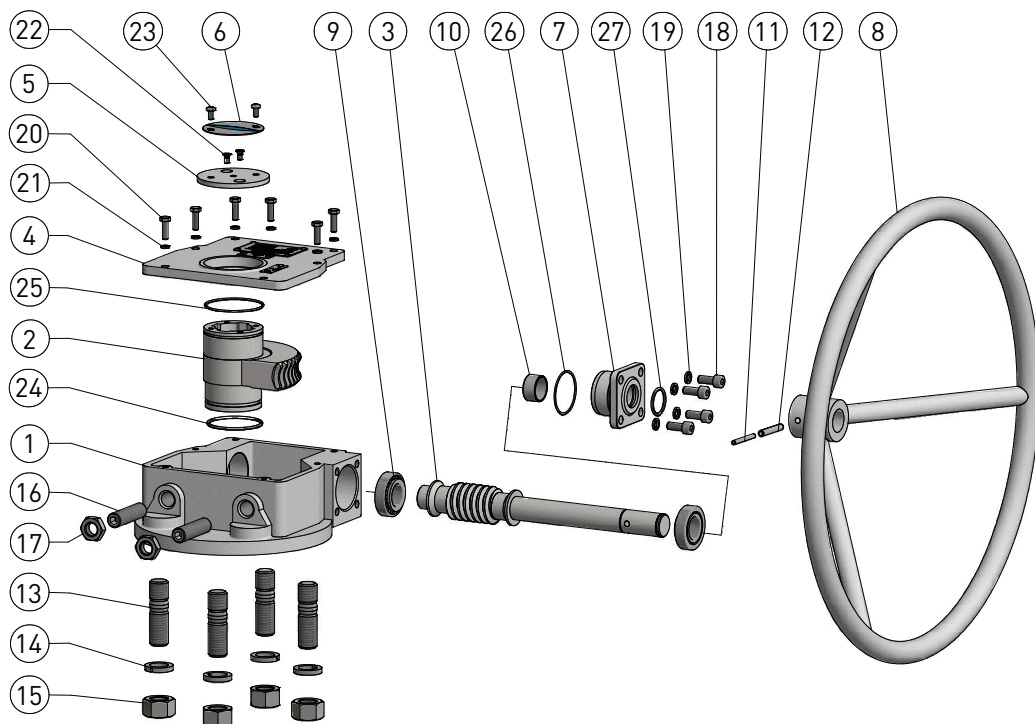
Torque range: 400 to 80,000 Nm  
(295 to 59,005 ft/lbs)  
Ratio: 42:1 to 1,680:1  
Handwheel diameter: 150 to 700 mm  
(5.91 to 27.6 in)



# KTM SERIES OV

## SECTIONAL DRAWING AND PARTS LIST

### SERIES OV10, OV50, OV100, OV200



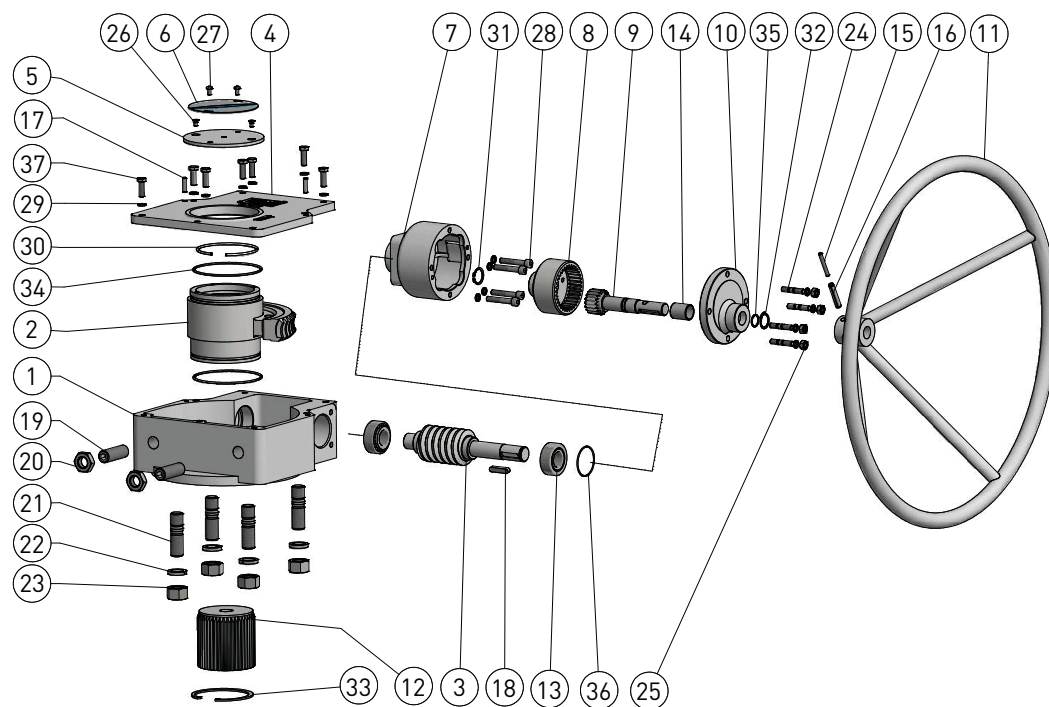
### PARTS LIST

No.	Description	Material
1	Housing	HT250 Cast iron
2	Worm wheel	QT450-10 Ductile iron
3	Worm shaft	Alloy steel
4	Housing cover	HT250 Cast iron
5	Plate	Carbon steel
6	Indicator	304SS
7	End cover	HT250 Cast iron
8	Handwheel	Carbon steel
9	Bearing	Bearing steel
10	Bearing	Metal backed PTFE
11	Pin	Spring steel
12	Pin	Spring steel
13	Stud	A194 Gr.B7
14	Spring washer	304SS
15	Nut	A194 Gr.2H
16	Screw	Carbon steel
17	Nut	A194 Gr.2H
18	Screw	Carbon steel
19	Spring washer	304SS
20	Bolt	A2-70
21	Spring washer	304SS
22	Screw	Stainless steel
23	Screw	Stainless steel
24	O-ring	NBR
25	O-ring	NBR
26	O-ring	NBR
27	O-ring	NBR

# KTM SERIES OV

## SECTIONAL DRAWING AND PARTS LIST

### SERIES OV300



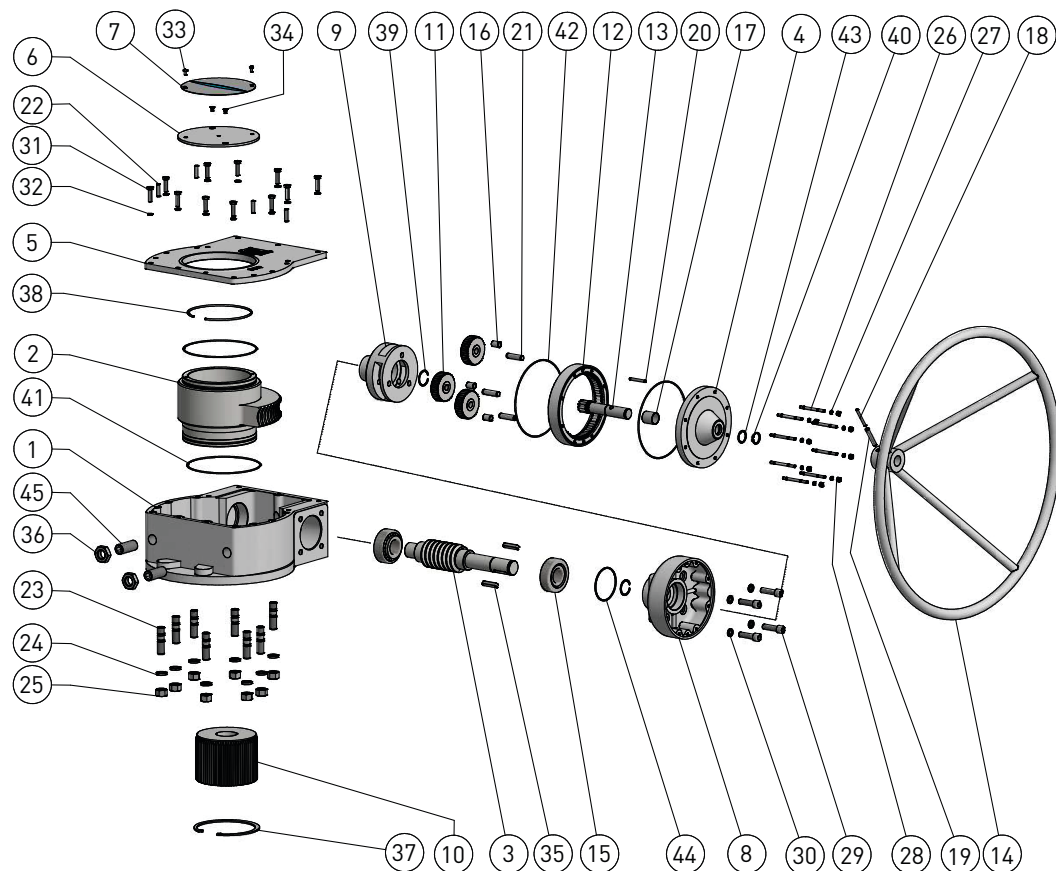
### PARTS LIST

No.	Description	Material	No.	Description	Material
1	Housing	HT250 Cast iron	25	Nut	A194 Gr.2H
2	Worm wheel	QT450-10 Ductile iron	26	Screw	Stainless steel
3	Worm shaft	Alloy steel	27	Screw	Stainless steel
4	Housing cover	HT250 Cast iron	28	Screw	Carbon steel
5	Plate	Carbon steel	29	Spring washer	304SS
6	Indicator	304SS	30	Snap ring	Spring steel
7	Reduction housing	WCB	31	Snap ring	304SS
8	Gear	Carbon steel	32	Snap ring	304SS
9	Pinion	Alloy steel	33	Snap ring	Spring steel
10	End cover	HT250 Cast iron	34	O-ring	NBR
11	Handwheel	Carbon steel	35	O-ring	NBR
12	Insert bush	Carbon steel	36	O-ring	NBR
13	Bearing	Bearing steel	37	Bolt	Carbon steel
14	Bearing	Metal backed PTFE			
15	Pin	Spring steel			
16	Pin	Spring steel			
17	Pin	Carbon steel			
18	Key	Carbon steel			
19	Screw	Carbon steel			
20	Nut	A194 Gr.2H			
21	Stud	A194 Gr.B7			
22	Spring washer	304SS			
23	Nut	A194 Gr.2H			
24	Stud	A194 Gr.B7			

# KTM SERIES OV

## SECTIONAL DRAWING AND PARTS LIST

### SERIES OV400, OV800, OV1600, OV6000



#### PARTS LIST

No.	Description	Material	No.	Description	Material
1	Housing	HT250 Cast iron	25	Nut	A194 Gr.2H
2	Worm wheel	QT450-10 Ductile iron	26	Stud	A194 Gr.B7
3	Worm shaft	Alloy steel	27	Spring washer	304SS
4	End cover	HT250 Cast iron	28	Nut	A194 Gr.2H
5	Housing cover	HT250 Cast iron	29	Screw	Carbon steel
6	Plate	Carbon steel	30	Spring washer	304SS
7	Indicator	304SS	31	Bolt	Carbon steel
8	Reduction housing	WCB	32	Spring washer	304SS
9	Yoke	Carbon steel	33	Screw	Stainless steel
10	Insert bush	Carbon steel	34	Screw	Stainless steel
11	Gear	Alloy steel	35	Key	Carbon steel
12	Gear	Carbon steel	36	Nut	A194 Gr.2H
13	Pinion	Alloy steel	37	Snap ring	Spring steel
14	Handwheel	Carbon steel	38	Snap ring	Spring steel
15	Bearing	Bearing steel	39	Snap ring	304SS
16	Bearing	Metal backed PTFE	40	Snap ring	304SS
17	Bearing	Metal backed PTFE	41	O-ring	NBR
18	Pin	Spring steel	42	O-ring	NBR
19	Pin	Spring steel	43	O-ring	NBR
20	Pin	Carbon steel	44	O-ring	NBR
21	Pin	Carbon steel	45	Screw	Carbon steel
22	Pin	Carbon steel			
23	Stud	A194 Gr.B7			
24	Spring washer	304SS			

# KTM SERIES OV

## TORQUE VALUES AND STEM COMPATIBILITY

### TECHNICAL DATA

Stroke 90°±5°

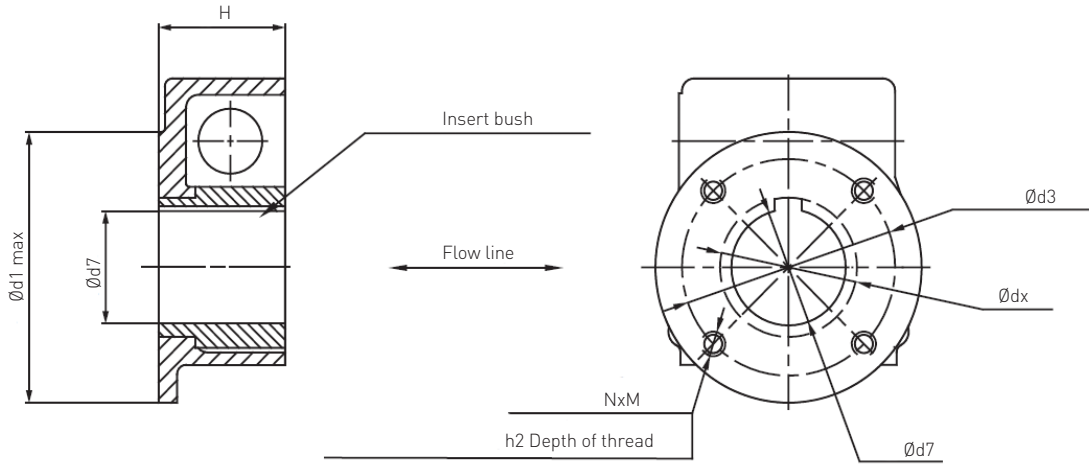
Gear size	Input torque	Max. output torque		Ratio	Handwheel diameter
	Nm (ft/lbs)	Nm (ft/lbs)	Turns per 90°		mm (in)
OV10-18	35 (25.8)	400 (295)	10	42:1	150 (5.91)
OV50-X	87 (64.2)	1000 (738)	12	50:1	300 (11.8)
OV100-35	133 (98.1)	2000 (1475)	13	53:1	500 (19.7)
OV100-40	133 (98.1)	2000 (1475)	13	53:1	500 (19.7)
OV200-45	167 (123)	3000 (2213)	17	70:1	600 (23.6)
OV200-50	200 (148)	3600 (2655)	17	70:1	600 (23.6)
OV300-X	135 (99.6)	4000 (2950)	34	136:1	600 (23.6)
OV400-X	133 (98.1)	8000 (5901)	75	297:1	500 (19.7)
OV800-X	195 (144)	20,000 (14,751)	131	525:1	700 (27.6)
OV1600-X	170 (125)	35,000 (25,815)	262	1050:1	700 (27.6)
OV6000-X	270 (199)	80,000 (59,005)	420	1680:1	700 (27.6)

### GREASE CHARACTERISTICS

Lithium-based lubricant GB5670-85 Outstanding mechanical stability with very good resistance to corrosion, water and oxidation

### NOTES:

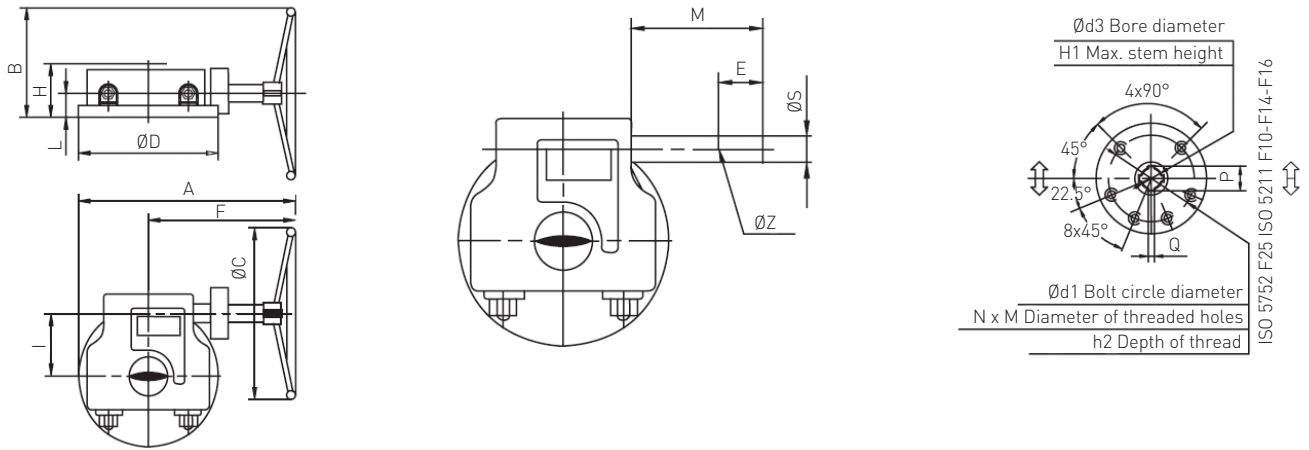
- For Series OV10, OV100, OV200, the drive sleeve is supplied with machined bore as standard.
- For all other series, the insert bush is supplied with unmachined bore unless otherwise requested.
- Fixing bolts or rods supplied only on request, minimum material class required 8.8 UNI 37409, ASTM A320-L7.
- Any special coupling and application can be supplied on request.



### SERIES OV50-OV6000 MAX STEM ACCEPTANCE mm (in)

Series	ISO 5211 Flange	Ød1	Ød3	NxM	H	h2	Ød7 Max diameter of shaft	
							Insert bush	
							Ød7	Ødx
OV50-X	F14	175 (6.89)	140 (5.51)	4xM16	83 (3.27)	24 (0.945)	42 (1.65)	51 (2.01)
OV300-X	F16	240 (9.45)	165 (6.50)	4xM20	95 (3.74)	22 (0.866)	65 (2.56)	76 (2.99)
OV400-X	F25	300 (11.8)	254 (10.0)	8xM16	108 (4.25)	21 (0.827)	90 (3.54)	104 (4.09)
OV800-X	F25	300 (11.8)	254 (10.0)	8xM16	140 (5.51)	26 (1.02)	105 (4.13)	126 (4.96)
OV1600-X	F30	350 (13.8)	298 (11.7)	8xM20	158 (6.22)	35 (1.38)	120 (4.72)	139 (5.47)
OV6000-X	F40	475 (18.7)	406 (16.0)	8xM36	240 (9.45)	42 (1.65)	173 (6.81)	199 (7.84)

**KTM SERIES OV**  
DIMENSIONAL DATA (METRIC)



**SERIES OV OVERALL DIMENSIONS (mm)**

Series	A	B	ØC	ØD	F	H	I	L	Weight (kg)
OV10-18	240	113	150	125	180	75	65.00	37	7
OV50-X	288	189	300	175	200	85	67.00	39	11
OV100-35	445	369	500	210	340	85	85.00	43	12
OV100-40	445	369	500	210	340	85	85.00	43	12
OV200-45	490	340	600	240	370	110	118.25	40	28
OV200-50	505	390	600	240	370	110	118.25	40	28
OV300-X	574	354	600	240	390	115	130.00	54	36
OV400-X	590	285	500	300	550	125	130.00	60	46
OV800-X	585	396	700	350	410	160	165.00	75	101
OV1600-X	679	440	700	415	420	180	248.00	89	175
OV6000-X	799	475	700	475	480	240	305.00	125	380

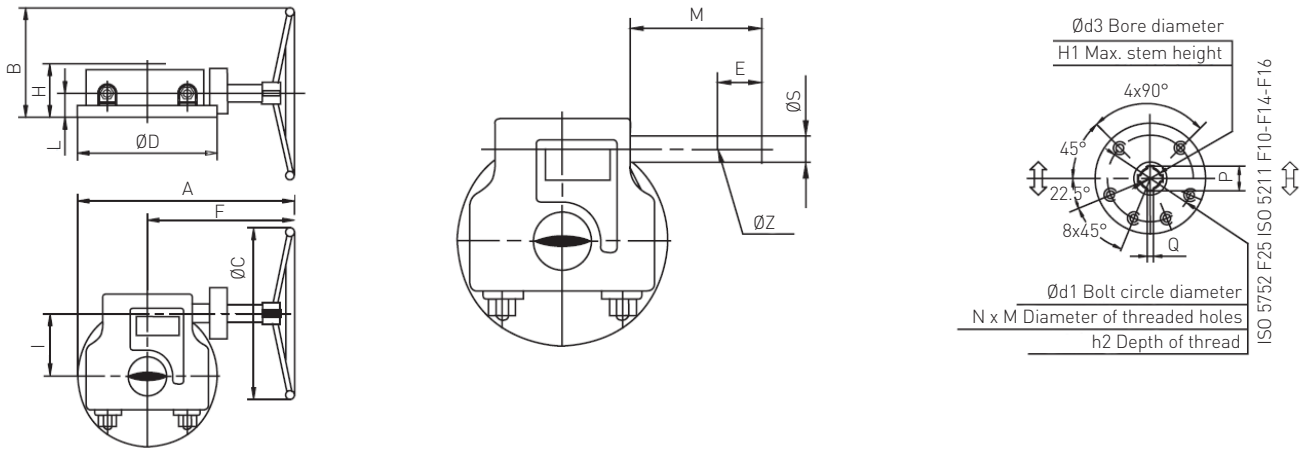
**COUPLING INPUT SHAFT DIMENSIONS (mm)**

Series	M	E	ØS	ØZ
OV10-18	69.0	30	15	5
OV50-X	95.0	37	20	6
OV100-35	128.5	39	25	6
OV100-40	128.5	39	25	6
OV200-45	110.0	47	25	8
OV200-50	110.0	47	25	8
OV300-X	76.0	36	20	8
OV400-X	58.0	47	20	8
OV800-X	95.0	47	25	8
OV1600-X	95.0	47	25	8
OV6000-X	110.0	47	25	8

**BOTTOM COUPLING FLANGE DIMENSIONS (mm)**

ISO 5211								
Series	Flange	Ød1	NxM	h2	Ød3	H1	Q	P
OV10-18	F10	102	4xM10	15	18	50	6	24
OV100-35	F16	165	4xM20	22	35	80	10	41
OV100-45	F16	165	4xM20	22	40	80	12	46
OV100-45	F16	165	4xM20	22	45	105	14	53
OV200-50	F16	165	4xM20	22	50	105	14	58

**KTM SERIES OV**  
 DIMENSIONAL DATA (IMPERIAL)



**SERIES OV OVERALL DIMENSIONS (in)**

Series	A	B	ØC	ØD	F	H	I	L	Weight (lbs)
OV10-18	9.45	4.45	5.91	4.92	7.09	2.95	2.56	1.46	15.4
OV50-X	11.3	7.44	11.8	6.9	7.87	3.35	2.64	1.54	24.3
OV100-35	17.5	14.5	19.7	8.27	13.4	3.35	3.35	1.69	26.5
OV100-40	17.5	14.5	19.7	8.27	13.4	3.35	3.35	1.69	26.5
OV200-45	19.3	13.4	23.6	9.45	14.6	4.33	4.66	1.58	61.7
OV200-50	19.9	15.4	23.6	9.45	14.6	4.33	4.66	1.58	61.7
OV300-X	22.6	13.9	23.6	9.45	15.4	4.53	5.12	2.13	79.4
OV400-X	23.2	11.2	19.7	11.8	21.6	4.92	5.12	2.36	101
OV800-X	23.0	15.6	27.6	13.8	16.1	6.30	6.50	2.95	222
OV1600-X	26.7	17.3	27.6	16.3	16.5	7.09	9.76	3.50	385
OV6000-X	31.5	18.7	27.6	18.7	18.9	9.45	12.0	4.92	838

**COUPLING INPUT SHAFT DIMENSIONS (in)**

Series	M	E	ØS	ØZ
OV10-18	2.71	1.18	0.591	0.197
OV50-X	3.74	1.46	0.787	0.236
OV100-35	5.06	1.54	0.984	0.236
OV100-40	5.06	1.54	0.984	0.236
OV200-45	4.33	1.85	0.984	0.315
OV200-50	4.33	1.85	0.984	0.315
OV300-X	2.99	1.42	0.787	0.315
OV400-X	2.28	1.85	0.787	0.315
OV800-X	3.74	1.85	0.984	0.315
OV1600-X	3.74	1.85	0.984	0.315
OV6000-X	4.33	1.85	0.984	0.315

**BOTTOM COUPLING FLANGE DIMENSIONS (in)**

Series	ISO 5211							
	Flange	Ød1	NxM	h2	Ød3	H1	Q	P
OV10-18	F10	4.02	4xM10	0.591	0.709	1.97	0.236	0.945
OV100-35	F16	6.50	4xM20	0.866	1.38	3.15	0.394	1.61
OV100-45	F16	6.50	4xM20	0.866	1.58	3.15	0.472	1.81
OV100-45	F16	6.50	4xM20	0.866	1.77	4.13	0.551	2.09
OV200-50	F16	6.50	4xM20	0.866	1.97	4.13	0.551	2.28

VCTDS-16330-EN © 2022 Emerson Electric Co. All rights reserved 03/22. KTM is a mark owned by one of the companies in the Emerson Automation Solutions business unit of Emerson Electric Co. The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Electric Co. does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Electric Co. product remains solely with the purchaser.

[Emerson.com/FinalControl](https://www.emerson.com/FinalControl)