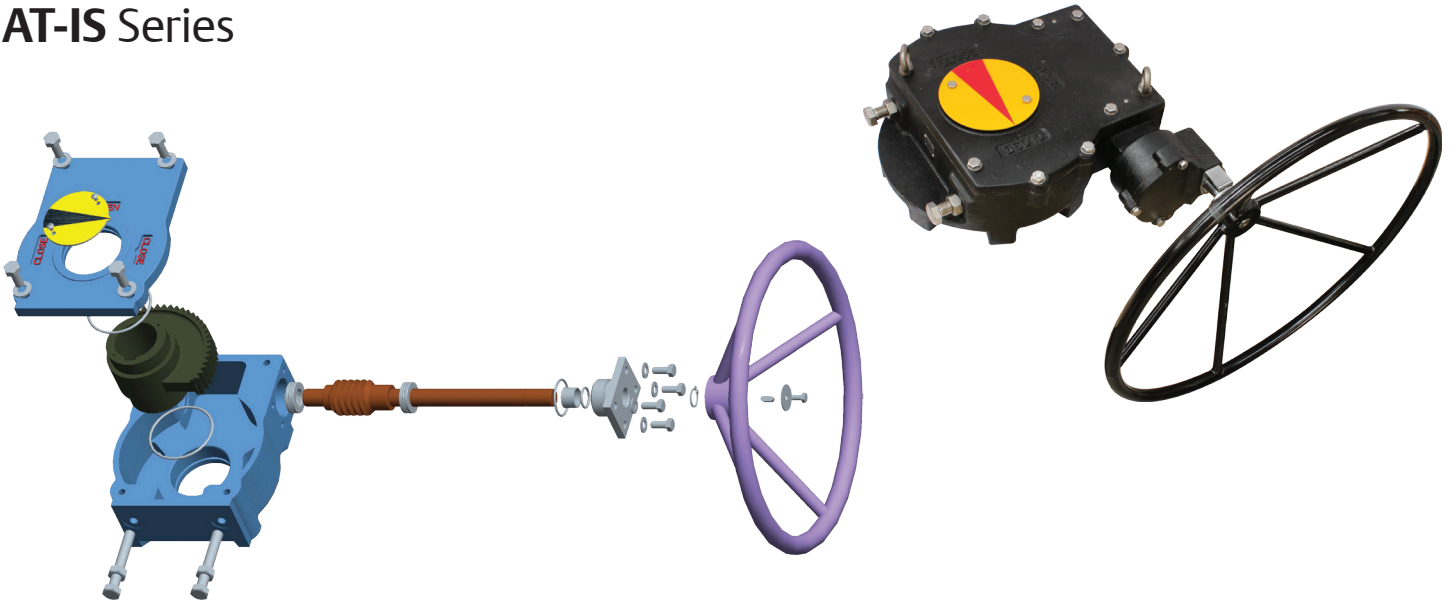


# Quarter-turn Worm Gear Operators for Manual Operation

## AT-IS Series



### Description

- Robust design, heavy duty gearboxes with aesthetically pleasing look
- Widely used on valves for oil and gas, chemical, power, waterworks, sewage, gas pipelines, HVAC, etc.
- 27 models up to a torque of 350,000 Nm and F-60 mounting base
- Designed for higher efficiencies and lower input effort on handwheel
- Designed to withstand overload torque
- Grease filled for life
- Fully sealed gearbox and completely enclosed gearing
- Ductile iron casing and alloy steel worm shafts
- High performance axial bearings
- Epoxy primer coating is standard
- Powder coated handwheels for smooth and easy operation
- Removable insert / adaptor option available for easy stocking of gears
- Worm + spur, worm + bevel, worm + spur + bevel configurations available to reduce rim pull / input effort and also for 'top operating' requirement

### Features

- Housing material options (carbon steel / stainless steel)
- Worm shaft, fasteners and hand wheel material option available in stainless steel
- Worm wheel material option available in aluminum bronze
- High temperature variant up to +200°C (+392°F) & low temperature variant up to -52°C (-61.6°F) available
- Marine application (all exposed shafts and fasteners in stainless steel)
- Finish painting available on request
- IP-67 standard enclosure (IP-68 available on request)
- Padlock arrangement option available
- Namur mounting option available for limit switch box fitment
- Extension shaft for buried service available

### Options

- Top mounted / top operated version ("handwheel, chainwheel or electric actuator" to be mounted / operated from the top of the gearbox and not from the side) of AT-IS, CW and IS-EA series (all models)
- Twin-shaft version available for some models of AT and AT-IS series to reduce no. of turns to close for manual operation (for models above AT-300/2/S3 and AT-300/1/S3-IS)
- Stainless steel version of gearboxes available for applications in highly corrosive environments as well as food and beverage, pharmaceutical and sanitary facilities. Option available for all models of AT, AT-IS, IS-EA and CW series
- Gearbox options as per API 6D specifications available for torques up to 3500 Nm
- Part turn 180° operated gearbox option available up to 15000 Nm

# Quarter-turn Worm Gear Operators for Manual Operation

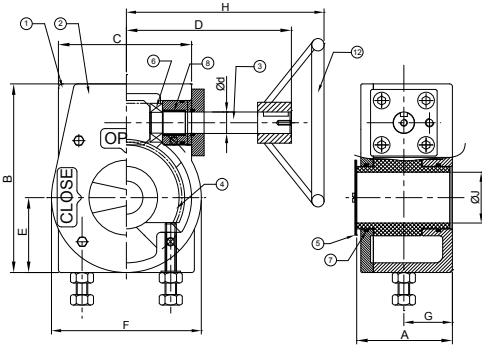


Figure 1

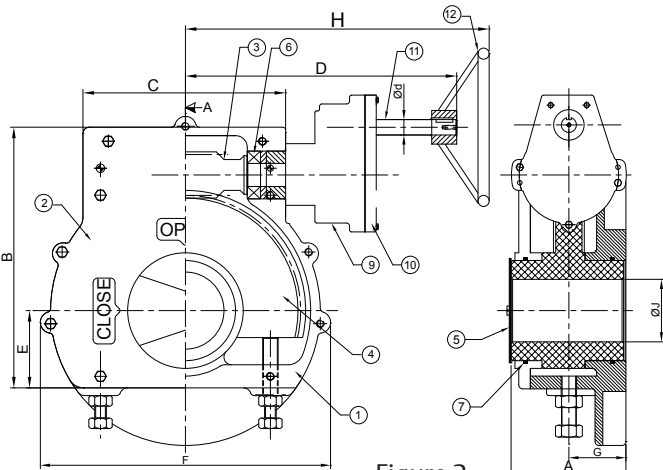
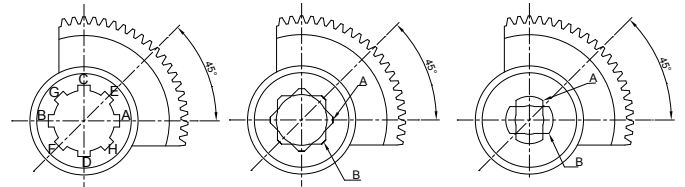
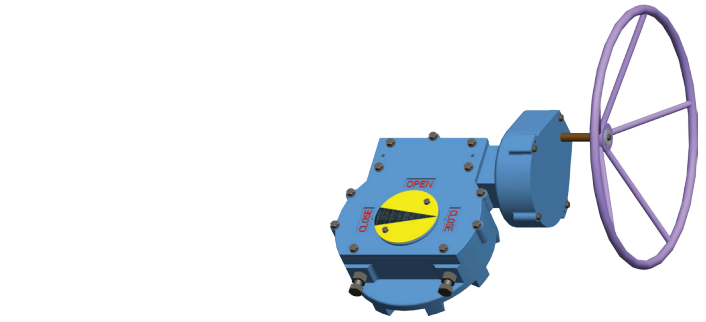


Figure 2



View From Top At Close Position

**Note:**

Refer to Figure (1) for Models up to "AT-90-IS"  
Refer to Figure (2) for Models above "AT-90-IS"

Sr. No.	Description	Material	US Standard	IS Standard
1	Housing	Ductile Iron	ASTM A536 60-40-18	SG 400/12
2	Top Cover	Ductile Iron	ASTM A536 60-40-18	SG 400/12
3	Worm Shaft	Carbon steel	ASTM A322 4140	40Cr4Mo3
4	Worm Wheel	Ductile Iron	ASTM A70-50 05	SGI 500/7
5	Indicator	Carbon Steel	ASTM A576 1045	45C8
6	Thrust Bearing	Special steel	ASTM A295 52100	-
7	'O' Ring	NBR (Buna-N)	NBR (Buna-N)	Nitrile
8	Sintered Bush	Bronze	B148 C95800	-
9	Spur Housing	Ductile Iron	ASTM A536 60-40-18	SG 400/12
10	Spur Cover	Ductile Iron	ASTM A536 60-40-18	SG 400/12
11	Spur Pinion	Carbon steel	ASTM A322 4140	40Cr4Mo3
12	Handwheel (Pipe)	Carbon steel	ASTM A53	IS 2062 Gr B
13	Fasteners	Stainless Steel	ASTM A276 304	SS304

Model	Output Torque (Nm)	Ratio	Mech. Advantage ±10%	Turns To Close	ISO 5211 Mounting	Max Drive Bore Ø"J"	Recommended Handwheel (mm)	Ød	A	B	C	D	E	F	G	H
AT-20-IS	250	33:1	8	8.25	F05,F07	20	Ø175	15	56.5	110	82	149	36	90	26	184
AT-25-IS	500	40:1	10.5	10	F07,F10	30	Ø250	15	69	136	98	158	54	108	35	223
AT-30-IS	700	40:1	10	10	F07,F10,F12	32	Ø350	20	77	143	95	131	45	128	42.4	206
AT-40-IS	1000	44:1	11.5	11	F10,F12,F14	45	Ø350	25	93	176	116	173	70	140	47	253
AT-50-IS	1500	48:1	12.5	12	F10,F12,F14,F16	50	Ø500	25	89	198	152	148	64	200	51.8	228
AT-60-IS	2000	60:1	15	15	F12,F14,F16	50	Ø500	25	92	214	156	188	83	176	46	268
AT-80-IS	2800	80:1	22	20	F14,F16,F25	80	Ø500	25	119.5	245	232	253	84	300	64	333
AT-70-IS	3500	73:1	20	18.25	F14,F16,F25	80	Ø500	25	118	265	206	227	85	300	62	307
AT-90-IS	4000	90:1	24	22.5	F16,F25	90	Ø600	25	133	305	268	259	100	342	78	359
AT-80/1/S1-IS	4500	264:1	60	66	F14,F16,F25	80	Ø500	25	122	265	206	329	85	290	64	409
AT-70/3/S1-IS	6000	292:1	65	73	F14,F16,F25	80	Ø600	25	118	265	206	327	85	300	62	427
AT-90/1/S1-IS	8000	300:1	70	75	F16,F25	90	Ø600	25	133	305	268	359	100	342	78	459
AT-100/1/S1-IS	10000	300:1	75	75	F25,F30	100	Ø600	25	151	348	263	356	110	377	76	456
AT-150/1/S2-IS	15000	450:1	100	112.5	F25,F30	100	Ø600	25	151	348	263	402	110	377	76	502
AT-250/2/S2-IS	22500	456:1	120	114	F25,F30,F35	110	Ø600	25	157	424	334	435	133	469	88	555
AT-300/1/S3-IS	28000	902:1	210	225.5	F30,F35	150	Ø750	30	157	424	334	473	133	469	88	593
AT-350/2/S3-IS	35000	1114:1	253	278.5	F30,F35	150	Ø750	30	157	424	334	473	133	469	88	593
AT-450/1/S3-IS	45000	1175:1	275	293.75	F30,F35,F40	150	Ø750	30	203	650	595	516	162	592	104	636
AT-500/1/S3-IS	50000	1261:1	287	315.25	F30,F35,F40	150	Ø750	30	203	650	595	600	199	706	103	720
AT-600/1/S3.5-IS	60000	1545:1	340	386.25	F30,F35,F40	150	Ø750	30	203	650	595	654	199	710	105	714
AT-750/1/S4-IS	75000	1826:1	400	456.5	F40,F48	200	Ø750	30	203	650	595	656	199	706	103	766
AT-1000/1/S4-IS	100000	2635:1	600	658.75	F40,F48	200	Ø750	30	203	650	595	656	199	706	103	766
AT-1500/1/S5-IS	150000	4224:1	860	1056	F40,F48,F60	250	Ø900	30	313	890	729	789	276	960	170	1029
AT-2000/1/S6-IS	200000	5498:1	1210	1374.5	F40,F48,F60	250	Ø900	30	313	890	729	789	276	960	170	1029
AT-2500/1/S6-IS	250000	7440:1	1630	1860	F48,F60	250	Ø900	30	383	1154	1006	963	350	1292	175	1203
AT-3000/1/S6-IS	300000	9300:1	2045	2325	F48,F60	260	Ø900	30	385	1154	1006	963	350	1292	175	1203
AT-3500/1/S6-IS	350000	11284:1	2482	2821	F48,F60	260	Ø1000	30	385	1154	1006	963	350	1292	175	1203