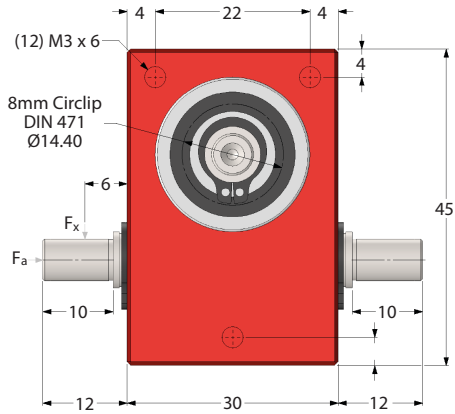
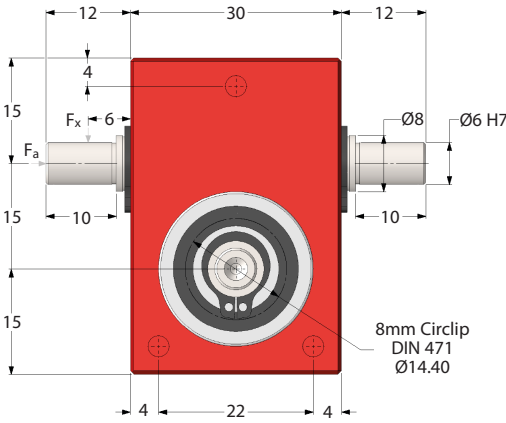
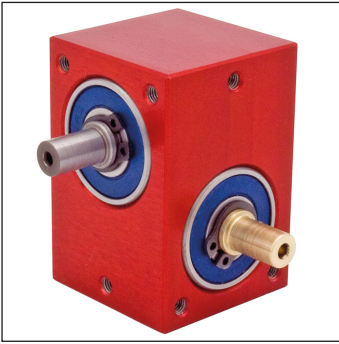


E15**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 6mm Dia. Shafts 0.4 - 2.53 Nm **1:1 - 40:1**

Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²) Self	Locking Output
E15-1	1:1	Helical	A	88%	4,000	3.762 x 10 ⁻⁶	✘
E15-2	2:1	Helical	A	86%	4,000	2.349 x 10 ⁻⁶	✘
E15-3	3:1	Helical	A	85%	4,000	2.011 x 10 ⁻⁶	✘
E15-4	4:1	Helical	A	84%	4,000	1.986 x 10 ⁻⁶	✘
E15-5	5:1	Helical	A	80%	4,000	1.544 x 10 ⁻⁶	✘
E15-8	8:1	Wormwheel	A	80%	2,000	1.622 x 10 ⁻⁶	✘
E15-10	10:1	Wormwheel	A	73%	2,000	1.609 x 10 ⁻⁶	✘
E15-20	20:1	Wormwheel	A	67%	2,000	1.593 x 10 ⁻⁶	✔
E15-40	40:1	Wormwheel	A	60%	2,000	1.589 x 10 ⁻⁶	✔
E15-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E15-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E15-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio					

Weight: 0.255 kg. **Greased for Life:** Shell Gadus S2 V220AD 2.**Self Locking Output:** Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 15 kg.**Max. Thrust Loads at 1000 Rpm:** Thrust Load (F_a) = 10 kg.**Standard Backlash:** ≈1°.

Special shaft sizes and other modifications are available.

Please contact Technical Sales department.

Testing in your application is necessary.

You will need to assess duty cycles and confirm suitability with your own calculations.

Figures listed are for guidance only.

Output Torque Nm

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	0.40	0.40	0.40	0.40	0.40	-	-	-	-	
2000	0.46	0.46	0.46	0.46	0.46	0.69	0.79	0.90	1.00	
1000	0.66	0.66	0.66	0.66	0.66	0.86	0.97	1.08	1.19	
500	0.92	0.92	0.92	0.92	0.92	1.27	1.37	1.47	1.56	
100	1.19	1.19	1.19	1.19	1.19	1.72	1.78	1.87	1.95	
50	1.25	1.25	1.25	1.25	1.25	1.95	2.07	2.18	2.24	
10	1.32	1.32	1.32	1.32	1.32	2.39	2.44	2.51	2.53	

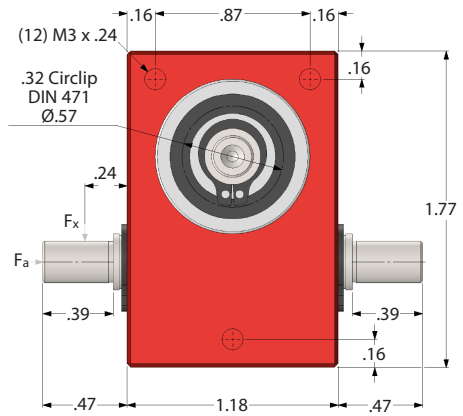
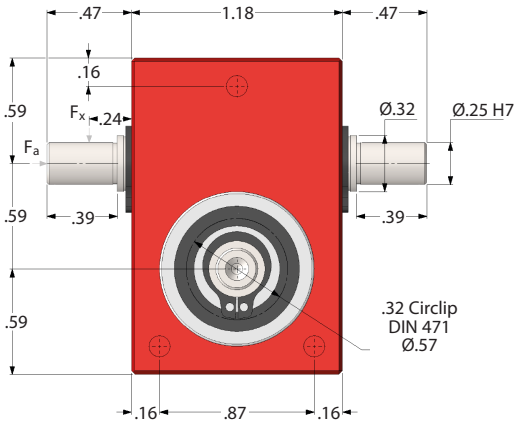
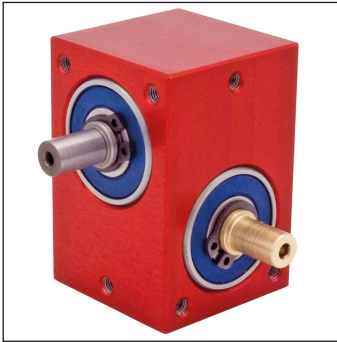
GEARBOXES

Right Angle Helical Reducers

Heavy Duty 0.25 Dia. Shafts 3.5 - 22.4 lbf.in **1:1 - 40:1**

e-cad
Drawings
Available

EA15



Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (lb.in ²)	Self Locking Output
EA15-1	1:1	Helical	A	88%	4,000	1.29 x 10 ⁻²	✗
EA15-2	2:1	Helical	A	86%	4,000	8.03 x 10 ⁻³	✗
EA15-3	3:1	Helical	A	85%	4,000	6.87 x 10 ⁻³	✗
EA15-4	4:1	Helical	A	84%	4,000	6.79 x 10 ⁻³	✗
EA15-5	5:1	Helical	A	80%	4,000	5.28 x 10 ⁻³	✗
EA15-8	8:1	Wormwheel	A	80%	2,000	5.54 x 10 ⁻³	✗
EA15-10	10:1	Wormwheel	A	73%	2,000	5.50 x 10 ⁻³	✗
EA15-20	20:1	Wormwheel	A	67%	2,000	5.44 x 10 ⁻³	✓
EA15-40	40:1	Wormwheel	A	60%	2,000	5.43 x 10 ⁻³	✓
EA15-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
EA15-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
EA15-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio					

Weight: 0.56 lb. **Greased for Life:** Shell Gadus S2 V220AD 2.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_a) = 33.07 lb.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_x) = 22.05 lb.

Standard Backlash: ≈1'.

Special shaft sizes and other modifications are available.
Please contact Technical Sales department.

Testing in your application is necessary.
You will need to assess duty cycles and confirm suitability with your own calculations.
Figures listed are for guidance only.

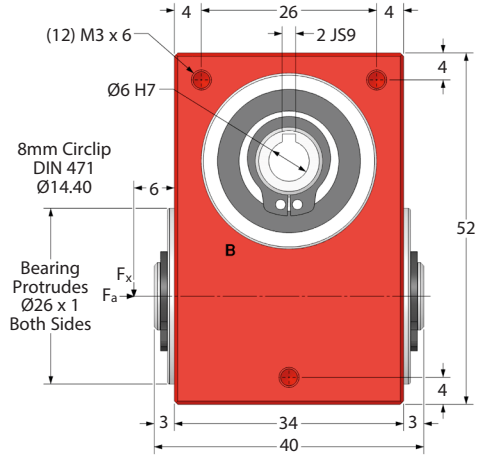
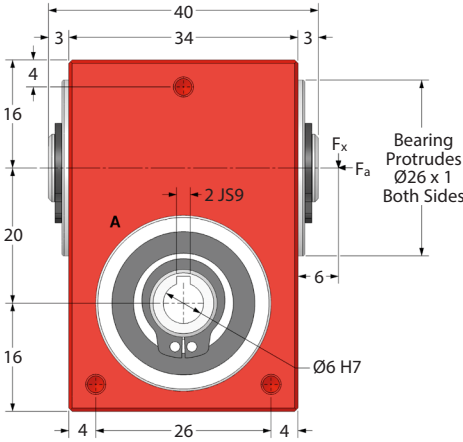
Output Torque lbf.in

Rpm Input	Reduction Ratio								
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1
3000	3.5	3.5	3.5	3.5	3.5	-	-	-	-
2000	4.1	4.1	4.1	4.1	4.1	6.1	7.0	8.0	8.9
1000	5.8	5.8	5.8	5.8	5.8	7.6	8.6	9.6	10.5
500	8.1	8.1	8.1	8.1	8.1	11.2	12.1	13.0	13.8
100	10.5	10.5	10.5	10.5	10.5	15.2	15.8	16.6	17.3
50	11.1	11.1	11.1	11.1	11.1	17.3	18.3	19.3	19.8
10	11.7	11.7	11.7	11.7	11.7	21.2	21.6	22.2	22.4

E20**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 6mm Bores 0.6 – 3.84 Nm **1:1 - 40:1**

Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²)	Self Locking Output
E20-1	1:1	Helical	A	88%	4,000	3.762 x 10 ⁻⁶	✘
E20-2	2:1	Helical	A	86%	4,000	2.349 x 10 ⁻⁶	✘
E20-3	3:1	Helical	A	85%	4,000	2.011 x 10 ⁻⁶	✘
E20-4	4:1	Helical	A	84%	4,000	1.986 x 10 ⁻⁶	✘
E20-5	5:1	Helical	A	80%	4,000	1.544 x 10 ⁻⁶	✘
E20-8	8:1	Wormwheel	A	80%	2,000	1.622 x 10 ⁻⁶	✘
E20-10	10:1	Wormwheel	A	73%	2,000	1.609 x 10 ⁻⁶	✘
E20-20	20:1	Wormwheel	A	67%	2,000	1.593 x 10 ⁻⁶	✔
E20-40	40:1	Wormwheel	A	60%	2,000	1.589 x 10 ⁻⁶	✔
E20-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E20-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E20-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio					

Weight: 0.255 kg. **Greased for Life:** Shell Gadus S2 V220AD 2.**Self Locking Output:** Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 15 kg.**Max. Thrust Loads at 1000 Rpm:** Thrust Load (F_a) = 10 kg.**Standard Backlash:** ≈1°.**Output Shafts:** E20-X (Single), E20-DX (Double).**Output Key:** KK2-22.

Special bores and other modifications are available.

Please contact Technical Sales department.

Output Torque Nm

Rpm Input	Reduction Ratio								
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1
3000	0.60	0.60	0.60	0.60	0.60	-	-	-	-
2000	0.70	0.70	0.70	0.70	0.70	1.05	1.20	1.36	1.52
1000	1.00	1.00	1.00	1.00	1.00	1.31	1.47	1.63	1.80
500	1.40	1.40	1.40	1.40	1.40	1.93	2.08	2.22	2.37
100	1.80	1.80	1.80	1.80	1.80	2.60	2.70	2.83	2.95
50	1.90	1.90	1.90	1.90	1.90	2.95	3.13	3.31	3.40
10	2.00	2.00	2.00	2.00	2.00	3.62	3.70	3.80	3.84

Testing in your application is necessary. You will need to assess duty cycles and confirm suitability with your own calculations. Figures listed are for guidance only.

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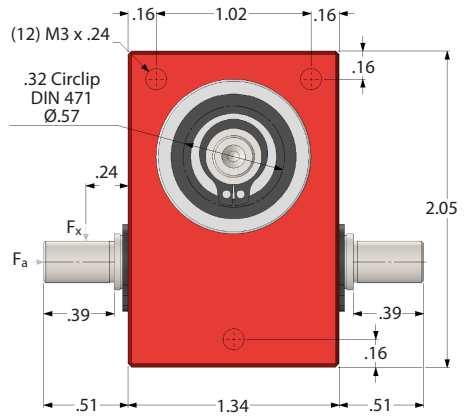
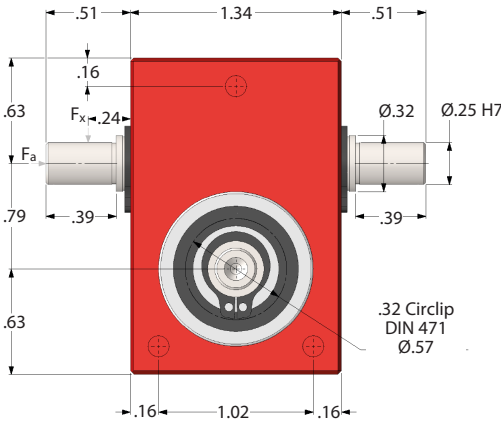
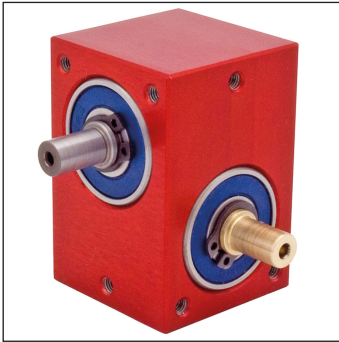
GEARBOXES

Right Angle Helical Reducers

Heavy Duty 0.25 Dia. Shafts 5.3 - 34 lbf.in **1:1 - 40:1**

e-cad
Drawings
Available

EA20



Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (lb.in ²)	Self Locking Output
EA20-1	1:1	Helical	A	88%	4,000	1.29 x 10 ⁻²	✗
EA20-2	2:1	Helical	A	86%	4,000	8.03 x 10 ⁻³	✗
EA20-3	3:1	Helical	A	85%	4,000	6.87 x 10 ⁻³	✗
EA20-4	4:1	Helical	A	84%	4,000	6.79 x 10 ⁻³	✗
EA20-5	5:1	Helical	A	80%	4,000	5.28 x 10 ⁻³	✗
EA20-8	8:1	Wormwheel	A	80%	2,000	5.54 x 10 ⁻³	✗
EA20-10	10:1	Wormwheel	A	73%	2,000	5.50 x 10 ⁻³	✗
EA20-20	20:1	Wormwheel	A	67%	2,000	5.44 x 10 ⁻³	✓
EA20-40	40:1	Wormwheel	A	60%	2,000	5.43 x 10 ⁻³	✓
EA20-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
EA20-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
EA20-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio					

Weight: 0.56 lb. Greased for Life: Shell Gadus S2 V220AD 2.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_x) = 33.07 lb.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_a) = 22.05 lb.

Standard Backlash: ≈1'.

Special bores and other modifications are available.

Please contact Technical Sales department.

Testing in your application is necessary.

You will need to assess duty cycles and confirm suitability with your own calculations.

Figures listed are for guidance only.

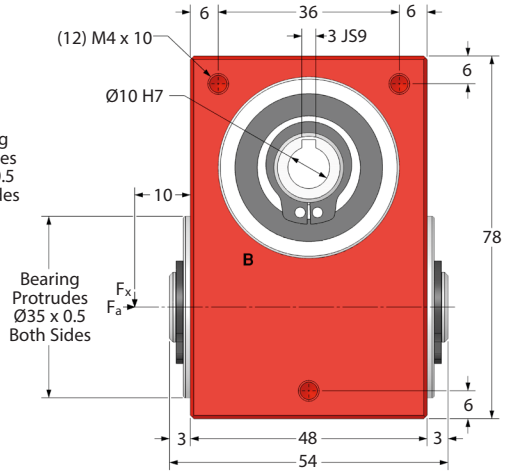
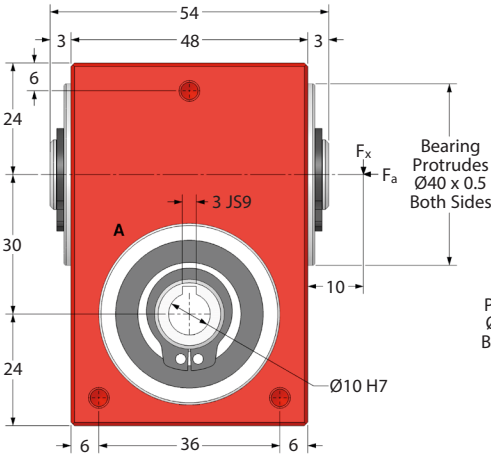
Output Torque lbf.in

Rpm Input	Reduction Ratio								
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1
3000	5.3	5.3	5.3	5.3	5.3	-	-	-	-
2000	6.2	6.2	6.2	6.2	6.2	9.3	10.6	12.0	13.5
1000	8.9	8.9	8.9	8.9	8.9	11.6	13.0	14.4	15.9
500	12.4	12.4	12.4	12.4	12.4	17.1	18.4	19.7	21.0
100	15.9	15.9	15.9	15.9	15.9	23.0	23.9	25.0	26.1
50	16.8	16.8	16.8	16.8	16.8	26.1	27.7	29.3	30.1
10	17.7	17.7	17.7	17.7	17.7	32.0	32.8	33.6	34.0

E30**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 10mm Bores 1.5 – 9 Nm **1:1 - 40:1**

Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²)	Self Locking Output	
E30-1	1:1	Helical	B	90%	4,000	2.867×10^{-3}	✗	
E30-2	2:1	Helical	A	88%	4,000	1.362×10^{-3}	✗	
E30-3	3:1	Helical	A	87%	4,000	1.071×10^{-3}	✗	
E30-4	4:1	Helical	A	86%	4,000	1.032×10^{-3}	✗	
E30-5	5:1	Helical	A	80%	4,000	9.372×10^{-4}	✗	
E30-8	8:1	Wormwheel	A	80%	1,500	1.115×10^{-3}	✗	
E30-10	10:1	Wormwheel	A	73%	1,500	1.106×10^{-3}	✗	
E30-20	20:1	Wormwheel	A	67%	1,500	1.094×10^{-3}	✓	
E30-40	40:1	Wormwheel	A	60%	1,500	1.091×10^{-3}	✓	
E30-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio						
E30-SPA	1:1 - 40:1	Low Backlash $\leq 30'$: Replace SP with required ratio						
E30-SPLH	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio						

Output Torque Nm

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	1.5	1.5	1.5	1.5	1.5	-	-	-	-	
2000	2.0	2.0	2.0	2.0	2.0	-	-	-	-	
1000	2.5	2.5	2.5	2.5	2.5	3.6	4.2	4.7	5.0	
500	3.0	3.0	3.0	3.0	3.0	4.9	5.3	5.6	6.0	
100	4.0	4.0	4.0	4.0	4.0	6.5	7.0	7.1	7.3	
50	4.5	4.5	4.5	4.5	4.5	7.9	8.4	8.5	8.6	
10	5.0	5.0	5.0	5.0	5.0	8.5	8.7	8.9	9.0	

Testing in your application is necessary. You will need to assess duty cycles and confirm suitability with your own calculations. Figures listed are for guidance only.

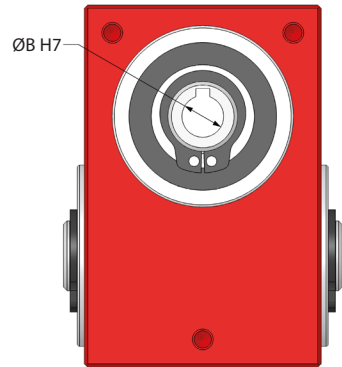
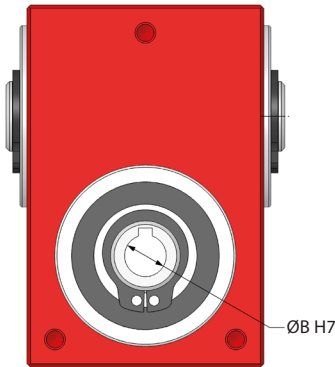
GEARBOXES

Right Angle Helical Reducers

Heavy Duty 8 & 9mm Bores 1.5 – 9 Nm **1:1 - 40:1**

e-cad
Drawings
Available

E30



Part Number		Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Self Locking Output	
ØB = 8mm	ØB = 9mm							
E30-1-8	E30-1-9	1:1	Helical	B	90%	4,000	✗	
E30-2-8	E30-2-9	2:1	Helical	A	88%	4,000	✗	
E30-3-8	E30-3-9	3:1	Helical	A	87%	4,000	✗	
E30-4-8	E30-4-9	4:1	Helical	A	86%	4,000	✗	
E30-5-8	E30-5-9	5:1	Helical	A	80%	4,000	✗	
E30-8-8	E30-8-9	8:1	Wormwheel	A	80%	1,500	✗	
E30-10-8	E30-10-9	10:1	Wormwheel	A	73%	1,500	✗	
E30-20-8	E30-20-9	20:1	Wormwheel	A	67%	1,500	✓	
E30-40-8	E30-40-9	40:1	Wormwheel	A	60%	1,500	✓	
E30-SP-8	E30-SP-9	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E30-SPA-8	E30-SPA-9	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E30-SPLH-8	E30-SPLH-9	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio					

Performance

Weight: 0.72 kg (Approx).

Standard Backlash: ≈1°. Low Backlash: ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 20 kg.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 15 kg.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

ØB Bore Sizes

Standard part 10 mm H7 with 3 mm keyway

9 mm H7 with 3 mm keyway

8 mm H7 with 2 mm keyway

All bores supplied with keyway to DIN 6885 - Js9 tolerance.

Output Shafts (To Suit 10mm Bore)

E30-X (Single), E30-DX (Double).

Input/Output Key: KK3-20.

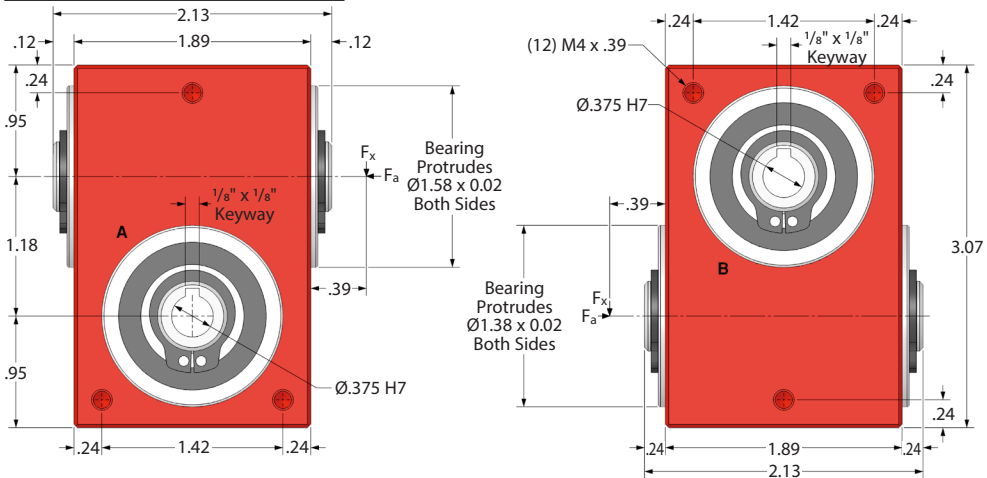
EA30**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 0.375 Dia. Bores 13.3 - 79.7 lbf.in **1:1 - 40:1**

Testing in your application is necessary.

You will need to assess duty cycles and confirm suitability with your own calculations.
Figures listed are for guidance only.

Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (lb.in ²)	Locking Output	
EA30-1	1:1	Helical	B	90%	4,000	9.80×10^{-2}	✗	
EA30-2	2:1	Helical	A	88%	4,000	4.65×10^{-2}	✗	
EA30-3	3:1	Helical	A	87%	4,000	3.66×10^{-2}	✗	
EA30-4	4:1	Helical	A	86%	4,000	3.53×10^{-2}	✗	
EA30-5	5:1	Helical	A	80%	4,000	3.20×10^{-2}	✗	
EA30-8	8:1	Wormwheel	A	80%	1,500	3.81×10^{-2}	✗	
EA30-10	10:1	Wormwheel	A	73%	1,500	3.78×10^{-2}	✗	
EA30-20	20:1	Wormwheel	A	67%	1,500	3.74×10^{-2}	✓	
EA30-40	40:1	Wormwheel	A	60%	1,500	3.73×10^{-2}	✓	
EA30-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio						
EA30-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio						
EA30-SPLH	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio						

Performance

Weight: 1.59 lb (Approx.).

Standard Backlash: ≈1°. Low Backlash: ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 44.09 lb.Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 33.07 lb.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

Output Torque lbf.in

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	13.3	13.3	13.3	13.3	13.3	-	-	-	-	
2000	17.7	17.7	17.7	17.7	17.7	-	-	-	-	
1000	22.1	22.1	22.1	22.1	22.1	31.9	37.2	41.6	44.3	
500	26.6	26.6	26.6	26.6	26.6	43.4	46.9	49.6	53.1	
100	35.4	35.4	35.4	35.4	35.4	57.5	62.0	62.8	64.6	
50	39.8	39.8	39.8	39.8	39.8	69.9	74.3	75.2	76.1	
10	44.3	44.3	44.3	44.3	44.3	75.2	77.0	78.8	79.7	

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GEARBOXES

Right Angle Helical Reducers

Heavy Duty 0.5 Dia. Bores 20.4 – 177 lbf.in **1:1 - 40:1**

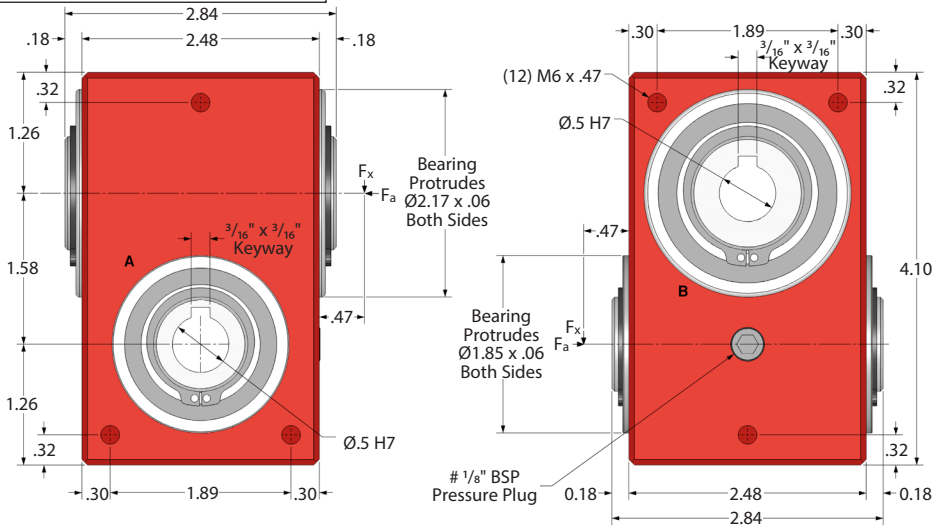
e-cad
Drawings
Available

EA40



Testing in your application is necessary.
You will need to assess duty cycles and confirm suitability with your own calculations.
Figures listed are for guidance only.

1/8" BSP Pressure Plug fitted one face only.
Will protrude Ø.39 x .20 high approx.
Actual height will vary



Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (lb.in ²)	Self Locking Output
EA40-1	1:1	Helical	B	92%	4,000	0.502	✗
EA40-2	2:1	Helical	A	90%	4,000	0.230	✗
EA40-3	3:1	Helical	A	89%	4,000	0.177	✗
EA40-4	4:1	Helical	A	88%	4,000	0.172	✗
EA40-5	5:1	Helical	A	80%	4,000	0.174	✗
EA40-8	8:1	Wormwheel	A	80%	1,500	0.178	✗
EA40-10	10:1	Wormwheel	A	73%	1,500	0.178	✗
EA40-20	20:1	Wormwheel	A	67%	1,500	0.175	✓
EA40-40	40:1	Wormwheel	A	60%	1,500	0.174	✓
EA40-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
EA40-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
EA40-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio					

Performance

Weight: 3.68 lb (Approx).

Standard Backlash: ≈1° Low Backlash: ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 88.19 lb.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 66.14 lb.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

Output Torque lbf.in

Rpm Input	Reduction Ratio								
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1
3000	20.4	20.4	20.4	20.4	20.4	-	-	-	-
2000	24.8	24.8	24.8	24.8	24.8	-	-	-	-
1000	33.6	33.6	33.6	33.6	33.6	64.6	70.8	77.9	85.9
500	44.3	44.3	44.3	44.3	44.3	94.7	100.0	108.0	115.9
100	70.8	70.8	70.8	70.8	70.8	125.7	132.8	139.8	147.8
50	79.7	79.7	79.7	79.7	79.7	151.3	153.1	156.7	161.1
10	88.5	88.5	88.5	88.5	88.5	172.6	173.5	175.2	177.0

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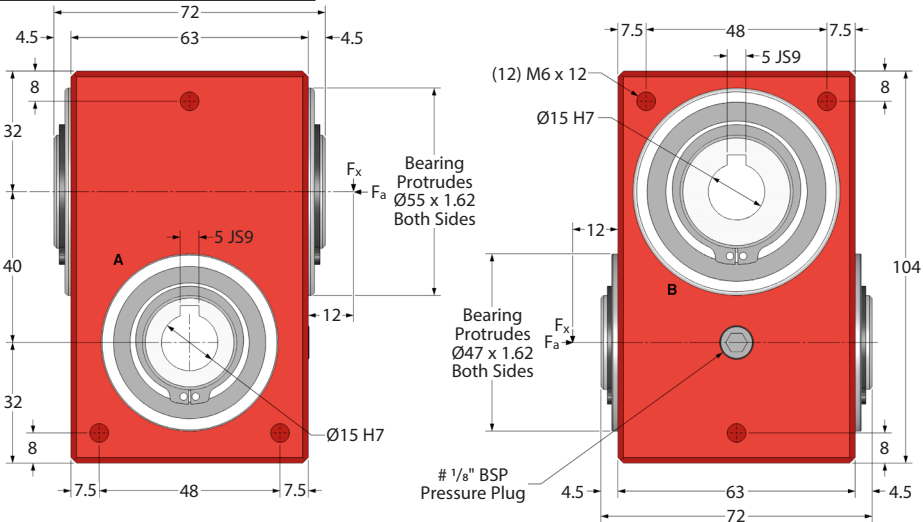
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E40**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 15mm Bores 2.3 – 20 Nm **1:1 - 40:1**# 1/8" BSP Pressure Plug fitted one face only.
Will protrude Ø10 x 5 high approx.
Actual height will vary

Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²) Self	Locking Output	
E40-1	1:1	Helical	B	92%	4,000	1.471 x 10 ⁻⁴	✗	
E40-2	2:1	Helical	A	90%	4,000	6.738 x 10 ⁻⁵	✗	
E40-3	3:1	Helical	A	89%	4,000	5.193 x 10 ⁻⁵	✗	
E40-4	4:1	Helical	A	88%	4,000	5.038 x 10 ⁻⁵	✗	
E40-5	5:1	Helical	A	80%	4,000	5.095 x 10 ⁻⁵	✗	
E40-8	8:1	Wormwheel	A	80%	1,500	5.213 x 10 ⁻⁵	✗	
E40-10	10:1	Wormwheel	A	73%	1,500	5.198 x 10 ⁻⁵	✗	
E40-20	20:1	Wormwheel	A	67%	1,500	5.110 x 10 ⁻⁵	✓	
E40-40	40:1	Wormwheel	A	60%	1,500	5.090 x 10 ⁻⁵	✓	
E40-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio						
E40-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio						
E40-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio						

Output Torque Nm

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	2.3	2.3	2.3	2.3	2.3	-	-	-	-	
2000	2.8	2.8	2.8	2.8	2.8	-	-	-	-	
1000	3.8	3.8	3.8	3.8	3.8	7.3	8.0	8.8	9.7	
500	5.0	5.0	5.0	5.0	5.0	10.7	11.3	12.2	13.1	
100	8.0	8.0	8.0	8.0	8.0	14.2	15.0	15.8	16.7	
50	9.0	9.0	9.0	9.0	9.0	17.1	17.3	17.7	18.2	
10	10.0	10.0	10.0	10.0	10.0	19.5	19.6	19.8	20.0	

Testing in your application is necessary.
You will need to assess duty cycles and confirm suitability with your own calculations.
Figures listed are for guidance only.

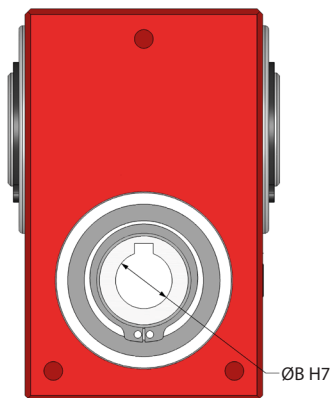
GEARBOXES

Right Angle Helical Reducers

Heavy Duty 12 & 14mm Bores 2.3 – 20 Nm **1:1 - 40:1**

e-cad
Drawings
Available

E40



Part Number		Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Self Locking Output	
ØB = 12mm	ØB = 14mm							
E40-1-12	E40-1-14	1:1	Helical	B	92%	4,000	✘	
E40-2-12	E40-2-14	2:1	Helical	A	90%	4,000	✘	
E40-3-12	E40-3-14	3:1	Helical	A	89%	4,000	✘	
E40-4-12	E40-4-14	4:1	Helical	A	88%	4,000	✘	
E40-5-12	E40-5-14	5:1	Helical	A	80%	4,000	✘	
E40-8-12	E40-8-14	8:1	Wormwheel	A	80%	1,500	✘	
E40-10-12	E40-10-14	10:1	Wormwheel	A	73%	1,500	✘	
E40-20-12	E40-20-14	20:1	Wormwheel	A	67%	1,500	✓	
E40-40-12	E40-40-14	40:1	Wormwheel	A	60%	1,500	✓	
E40-SP-12	E40-SP-14	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E40-SPA-12	E40-SPA-14	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E40-SPLH-12	E40-SPLH-14	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio					

Performance

Weight: 1.67 kg (Approx)

Standard Backlash: ≈1°. Low Backlash: ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 40 kg.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 30 kg.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

ØB Bore Sizes

Standard part 15 mm H7 with 5 mm keyway

14 mm H7 with 5 mm keyway

12 mm H7 with 4 mm keyway

All bores supplied with keyway to DIN 6885 - Js9 tolerance.

Output Shafts (To Suit 15mm Bore)

E40-X (Single), E40-DX (Double).

Input/Output Key: RKS-30.

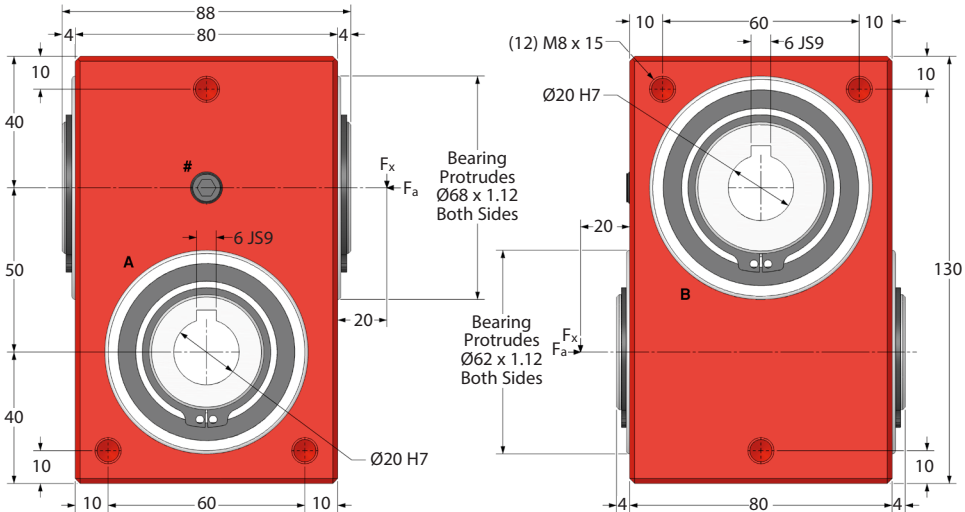
E50**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 20mm Bores 3 – 41 Nm **1:1 - 40:1**

1/8" BSP Pressure Plug fitted one face only.
Will protrude Ø10 x 5 high approx.
Actual height will vary



Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²)	Self Locking Output	
E50-1	1:1	Helical	B	93%	3,000	4.585 x 10 ⁻⁴	✗	
E50-2	2:1	Helical	A	91%	3,000	2.240 x 10 ⁻⁴	✗	
E50-3	3:1	Helical	A	90%	3,000	1.759 x 10 ⁻⁴	✗	
E50-4	4:1	Helical	A	89%	3,000	1.924 x 10 ⁻⁴	✗	
E50-5	5:1	Helical	A	80%	3,000	1.920 x 10 ⁻⁴	✗	
E50-8	8:1	Wormwheel	A	80%	1,500	1.489 x 10 ⁻⁴	✗	
E50-10	10:1	Wormwheel	A	73%	1,500	1.496 x 10 ⁻⁴	✗	
E50-20	20:1	Wormwheel	A	67%	1,500	1.463 x 10 ⁻⁴	✓	
E50-40	40:1	Wormwheel	A	60%	1,500	1.455 x 10 ⁻⁴	✓	
E50-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio						
E50-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio						
E50-SPLH	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio						

Output Torque Nm

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	3.0	3.0	3.0	3.0	3.0	-	-	-	-	
2000	4.0	4.0	4.0	4.0	4.0	-	-	-	-	
1000	6.0	6.0	6.0	6.0	6.0	11.3	13.0	15.0	17.0	
500	8.0	8.0	8.0	8.0	8.0	18.0	20.0	21.0	23.0	
100	12.0	12.0	12.0	12.0	12.0	25.0	26.0	28.0	30.0	
50	14.0	14.0	14.0	14.0	14.0	31.0	31.0	32.0	33.0	
10	16.0	16.0	16.0	16.0	16.0	40.0	40.0	41.0	41.0	

Testing in your application is necessary.
You will need to assess duty cycles and
confirm suitability with your own calculations.
Figures listed are for guidance only.

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 19 & 22mm Bores 3 – 41 Nm **1:1 - 40:1**

e-cad
Drawings
Available

E50



Part Number		Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Self Locking Output	
ØB = 19mm	ØB = 22mm							
E50-1-19	E50-1-22	1:1	Helical	B	92%	3,000	✗	
E50-2-19	E50-2-22	2:1	Helical	A	90%	3,000	✗	
E50-3-19	E50-3-22	3:1	Helical	A	89%	3,000	✗	
E50-4-19	E50-4-22	4:1	Helical	A	88%	3,000	✗	
E50-5-19	E50-5-22	5:1	Helical	A	80%	3,000	✗	
E50-8-19	E50-8-22	8:1	Wormwheel	A	80%	1,500	✗	
E50-10-19	E50-10-22	10:1	Wormwheel	A	73%	1,500	✗	
E50-20-19	E50-20-22	20:1	Wormwheel	A	67%	1,500	✓	
E50-40-19	E50-40-22	40:1	Wormwheel	A	60%	1,500	✓	
E50-SP-19	E50-SP-22	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E50-SPA-19	E50-SPA-22	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E50-SPLH-19	E50-SPLH-22	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio					

Performance

Weight: 3.18 kg (Approx)

Standard Backlash: ≈1°. Low Backlash: ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 60 kg.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 40 kg.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

ØB Bore Sizes

Standard part 20 mm H7 with 6 mm keyway

22 mm H7 with 6 mm keyway

19 mm H7 with 6 mm keyway

All bores supplied with keyway to DIN 6885 - Js9 tolerance.

Output Shafts (To Suit 20mm Bore)

E50-X (Single), E50-DX (Double).

Input/Output Key: KK6-32.

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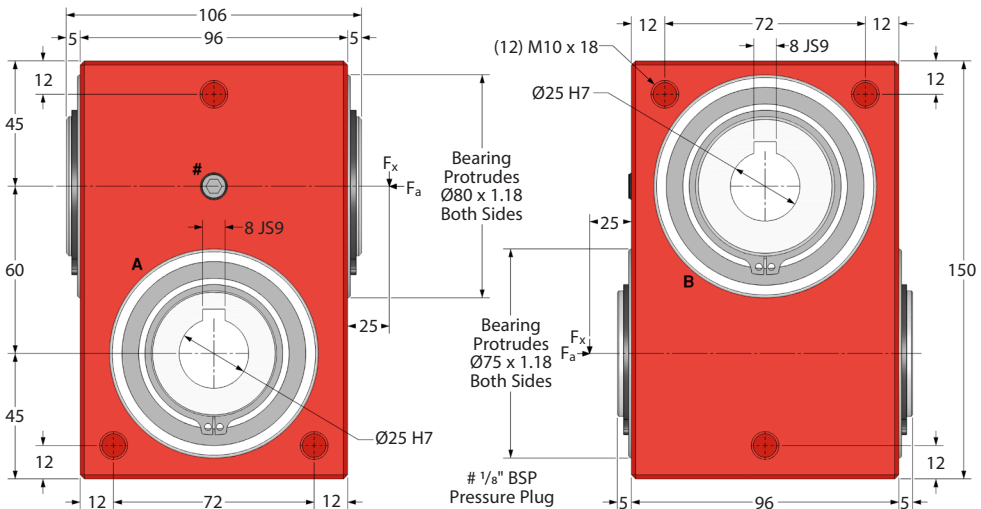
E60**e-cad**
Drawings
Available

GEARBOXES

Right Angle Helical Reducers

Heavy Duty 25mm Bores 4.5 – 62 Nm **1:1 - 40:1**

1/8" BSP Pressure Plug fitted one face only.
Will protrude Ø10 x 5 high approx.
Actual height will vary



Part Number	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Reflected Inertia at Input (kg.m ²)	Self Locking Output	
E60-1	1:1	Helical	B	94%	3,000	1.319 x 10 ⁻³	✗	
E60-2	2:1	Helical	A	92%	3,000	6.507 x 10 ⁻⁴	✗	
E60-3	3:1	Helical	A	91%	3,000	5.111 x 10 ⁻⁴	✗	
E60-4	4:1	Helical	A	90%	3,000	5.543 x 10 ⁻⁴	✗	
E60-5	5:1	Helical	A	80%	3,000	5.489 x 10 ⁻⁴	✗	
E60-8	8:1	Wormwheel	A	80%	1,500	4.951 x 10 ⁻⁴	✗	
E60-10	10:1	Wormwheel	A	73%	1,500	4.911 x 10 ⁻⁴	✗	
E60-20	20:1	Wormwheel	A	67%	1,500	4.859 x 10 ⁻⁴	✓	
E60-40	40:1	Wormwheel	A	60%	1,500	4.846 x 10 ⁻⁴	✓	
E60-SP	1:1 - 40:1	Special Ratios: Replace SP with required ratio						
E60-SPA	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio						
E60-SPLH	1:1 - 40:1	Left Hand Helicals: Replace SP with required ratio						

Output Torque Nm

Rpm Input	Reduction Ratio									
	1:1	2:1	3:1	4:1	5:1	8:1	10:1	20:1	40:1	
3000	4.5	4.5	4.5	4.5	4.5	-	-	-	-	
2000	5.5	5.5	5.5	5.5	5.5	-	-	-	-	
1000	8.0	8.0	8.0	8.0	8.0	17.8	21.3	22.0	24.0	
500	10.0	10.0	10.0	10.0	10.0	27.0	29.0	31.0	34.0	
100	16.0	16.0	16.0	16.0	16.0	37.0	40.2	42.0	44.0	
50	20.0	20.0	20.0	20.0	20.0	48.0	49.0	50.0	51.0	
10	24.0	24.0	24.0	24.0	24.0	60.0	60.0	61.0	62.0	

Testing in your application is necessary.
You will need to assess duty cycles and confirm suitability with your own calculations.
Figures listed are for guidance only.

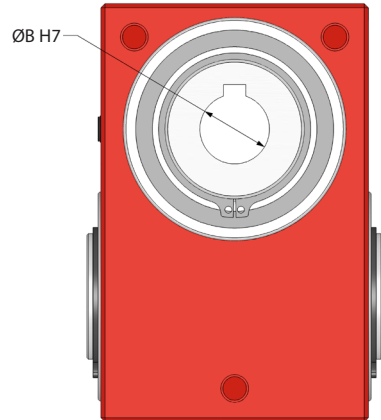
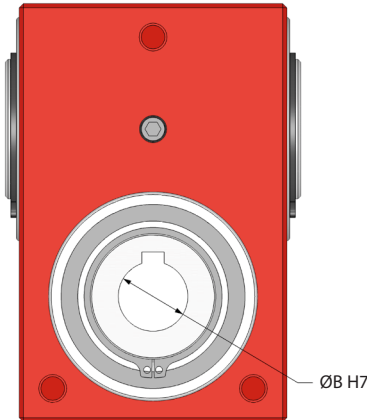
GEARBOXES

Right Angle Helical Reducers

Heavy Duty 22, 24 & 30mm Bores 4.5 – 62 Nm **1:1 - 40:1**

e-cad
Drawings
Available

E60



ØB = 22mm	Part Number	ØB = 24mm	ØB = 30mm	Ratio	Type	Input Face	Efficiency at 1000 Rpm	Max Input Speed	Self Locking Output
E60-1-22	E60-1-24	E60-1-30	1:1	Helical	B	92%	3,000	✘	
E60-2-22	E60-2-24	E60-2-30	2:1	Helical	A	90%	3,000	✘	
E60-3-22	E60-3-24	E60-3-30	3:1	Helical	A	89%	3,000	✘	
E60-4-22	E60-4-24	E60-4-30	4:1	Helical	A	88%	3,000	✘	
E60-5-22	E60-5-24	E60-5-30	5:1	Helical	A	80%	3,000	✘	
E60-8-22	E60-8-24	E60-8-30	8:1	Wormwheel	A	80%	1,500	✘	
E60-10-22	E60-10-24	E60-10-30	10:1	Wormwheel	A	73%	1,500	✘	
E60-20-22	E60-20-24	E60-20-30	20:1	Wormwheel	A	67%	1,500	✓	
E60-40-22	E60-40-24	E60-40-30	40:1	Wormwheel	A	60%	1,500	✓	
E60-SP-22	E60-SP-24	E60-SP-30	1:1 - 40:1	Special Ratios: Replace SP with required ratio					
E60-SPA-22	E60-SPA-24	E60-SPA-30	1:1 - 40:1	Low Backlash ≤30': Replace SP with required ratio					
E60-SPLH-22	E60-SPLH-24	E60-SPLH-30	1:1 - 40:1	Lefthand Helicals: Replace SP with required ratio					

Performance

Weight: 5.5 kg (Approx.)

Standard Backlash: ≈1° **Low Backlash:** ≤30'.

Greased for Life: Shell Gadus S2 V220AD 2.

LH - Left hand helix reverses output rotation.

Max. Overhung Loads at 1000 Rpm: Overhung Load (F_o) = 80 kg.

Max. Thrust Loads at 1000 Rpm: Thrust Load (F_t) = 50 kg.

Self Locking Output: Subject to ratio and only applies in static condition.

Amount of locking effect may vary due to manufacturing processes.

Modifications and specials are available. Please contact Technical Sales department.

ØB Bore Sizes

Standard part 25 mm H7 with 8 x 7 mm keyway

30 mm H7 with 8 x 7 mm keyway

24 mm H7 with 8 x 7 mm keyway

22 mm H7 with 6mm keyway

All bores supplied with keyway to DIN 6885 - J9 tolerance.

Output Shafts (To Suit 25mm Bore)

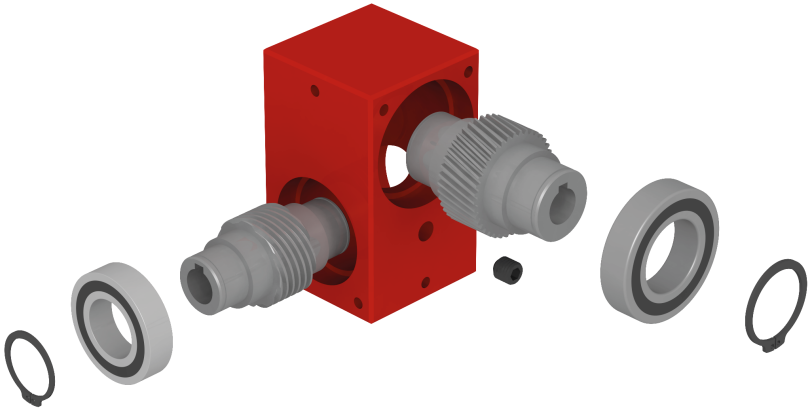
E60-X (Single), E60-DX (Double).

Input/Output Key: KK8-7-40.

GEARBOXES

E Type Right Angle Helical Reducers

Heavy Duty 6 – 30 mm Bores **1:1 - 40:1**



Case: AA15 red anodised Aluminum (6082-T6).

Input Gear: For 1:1 - 5:1 ratios hardened alloy Steel 655M13 (14NiCr14) or 805M20 (21NiCrMo2) helical gear
For 8:1 - 40:1 hardened alloy Steel 655M13 (14NiCr14) or 805M20 (21NiCrMo2) worm gear.

Output Gear: For 1:1 - 5:1 ratios Hardened Alloy Steel 655M13 (14NiCr14) or 805M20 (21NiCrMo2) helical gear.
For 8:1 - 40:1 E15, E20 & E30 Aluminum Bronze (CA104 / AB2) wormwheel gear.
For 8:1 - 40:1 E40, E50 & E60 Aluminum Bronze (CA104 / AB2) wormwheel with Alloy Steel 214M15 shaft.

Bearings: Steel single row radial ball bearing with 2RS rubber shields.

Circlips: DIN 471 C60 or C75 Steel

Pressure Plug: 1/8" BSP Plug. Gearboxes are greased for life. Refilling is only required when boxes are disassembled for refurbishment. Not fitted on E15, E20 and E30.

Keyways and Bores: All bores are tolerated to H7 ISO 286 as standard. Keyways allow use of parallel DIN 6885 keys with sliding fit. Tolerances may vary due to manufacturing processes.

Motor Fitting Inputs: Special flange and input required, add 35% to cost. Contact the Ondrives.US Corp. Technical Department for details on motor frame sizes. Certain restrictions may apply if the size of motor required is too large.

Backlash: Figures give are at output. Standard backlash 1°. Low backlash A version ≤ 30 arc mins.

Output Shafts: Single & double output shafts are available in 303 stainless steel. See opposite for details.

Thrust & Overhung Loads: Based on an input speed of 1,000 Rpm taking full torque load and combined thrust and overhung load.

Specials: Available from Ondrives.US Corp. are not only an extensive range of standard design reduction units but modifications to this range are also available. To find out more please contact the Ondrives.US Corp. Technical Department.

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