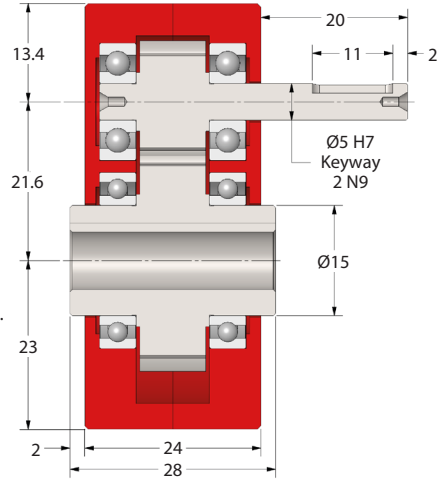
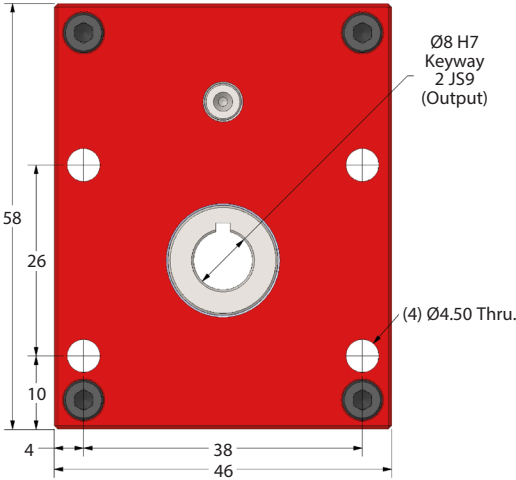
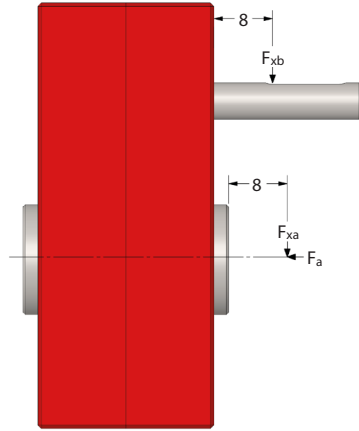


**FF10****e-cad**  
Drawings  
Available

# GEARBOXES

## Parallel Spur Gear Reducer

5mm Shaft Input - 8mm Bore, Output 0.78 – 7.4 Nm **2:1 - 7:1**

Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF10-2	2:1	93%	1.55
FF10-3	3:1	93%	1.49
FF10-4	4:1	93%	1.33
FF10-5	5:1	93%	1.27
FF10-6	6:1	93%	1.08
FF10-7	7:1	93%	0.90

FF10-XH

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 0.23 kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{xb}$ ) = 6 kg.Output Overhung Load ( $F_{xa}$ ) = 10 kg, Output Thrust Load ( $F_a$ ) = 10 kg.

Input Keys: KK2-10, Output Keys: KK2-22.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	1.34	1.29	1.15	1.10	0.94	0.78
1000	1.55	1.49	1.33	1.27	1.08	0.90
500	1.85	1.78	1.58	1.51	1.30	1.07
200	2.08	2.00	1.78	1.71	1.46	1.21
100	2.44	2.35	2.09	2.00	1.71	1.42
50	2.74	2.63	2.36	2.25	1.92	1.60
10	3.70	3.57	3.16	3.03	2.60	2.16

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www.ondrives.us

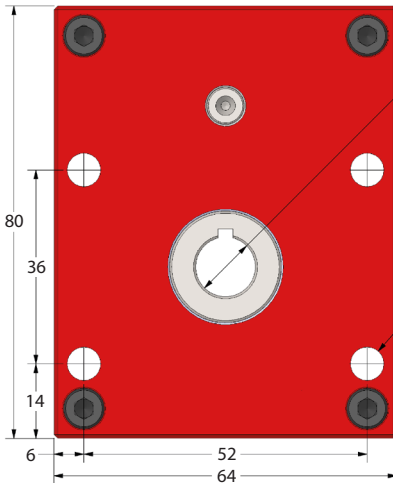
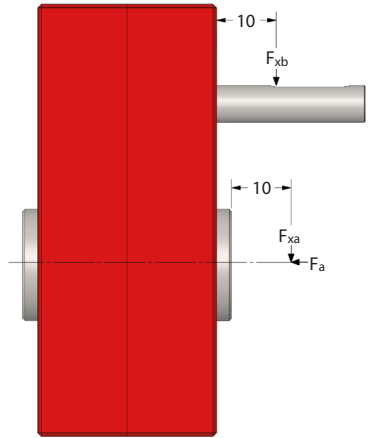
# GEARBOXES

## Parallel Spur Gear Reducer

8mm Shaft Input - 12mm Bore, Output 2.2 – 20 Nm **2:1 - 7:1**

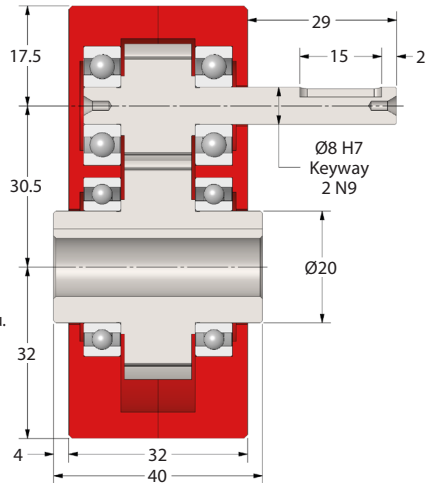
e-cad  
Drawings  
Available

**FF15**



Ø12 H7  
Keyway  
4 JS9  
(Output)

(4) Ø5.50 Thru.



Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF15-2	2:1	93%	4.30
FF15-3	3:1	93%	4.00
FF15-4	4:1	93%	3.70
FF15-5	5:1	93%	3.40
FF15-6	6:1	93%	3.10
FF15-7	7:1	93%	2.60

**FF15-XH**

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 0.55 kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{ib}$ ) = 12 kg.

Output Overhung Load ( $F_{ob}$ ) = 20 kg. Output Thrust Load ( $F_a$ ) = 20 kg.

Input Keys: KK2-14. Output Keys: KK4-25.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	3.70	3.50	3.20	2.90	2.60	2.20
1000	4.30	4.00	3.70	3.40	3.10	2.60
500	5.00	4.80	4.40	4.00	3.60	3.00
200	5.70	5.50	5.00	4.40	3.90	3.20
100	6.70	6.50	5.90	5.10	4.50	3.70
50	7.50	7.20	6.50	5.70	5.00	4.00
10	10.00	9.80	9.00	8.00	7.30	6.10

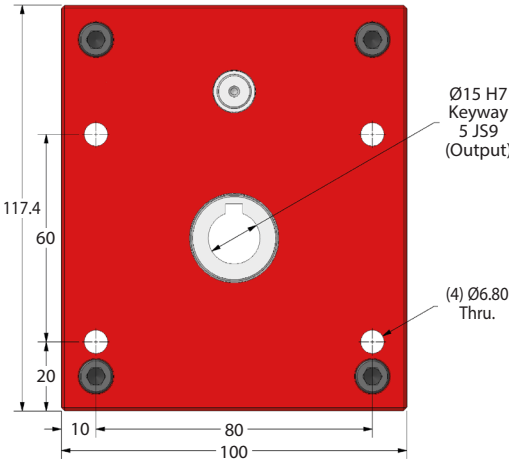
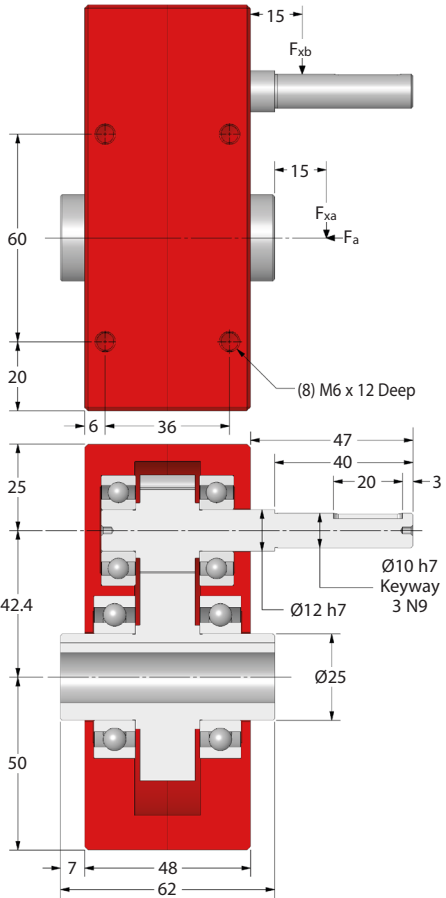
**FF20**

**e-cad**  
Drawings  
Available

# GEARBOXES

## Parallel Spur Gear Reducer

10mm Shaft Input - 15mm Bore Output, 5.8 – 46 Nm **2:1 - 7:1**



Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF20-2	2:1	93%	10.80
FF20-3	3:1	93%	10.20
FF20-4	4:1	93%	9.50
FF20-5	5:1	93%	8.20
FF20-6	6:1	93%	7.80
FF20-7	7:1	93%	6.90

FF20-XH

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 1.9 kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Geared for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{ia}$ ) = 16 kg. Output Overhung Load ( $F_{oa}$ ) = 40 kg. Output Thrust Load ( $F_{ta}$ ) = 30 kg.

Input Keys: KK3-20. Output Keys: KK5-40.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	9.20	7.70	8.00	6.90	6.60	5.80
1000	10.80	10.20	9.50	8.20	7.80	6.90
500	12.50	11.80	11.00	9.60	9.00	8.20
200	15.00	14.20	13.10	11.50	10.80	9.80
100	16.70	15.70	14.60	12.80	12.00	10.90
50	19.20	18.10	16.80	14.15	13.80	12.50
10	23.00	21.60	20.00	17.50	16.50	15.00

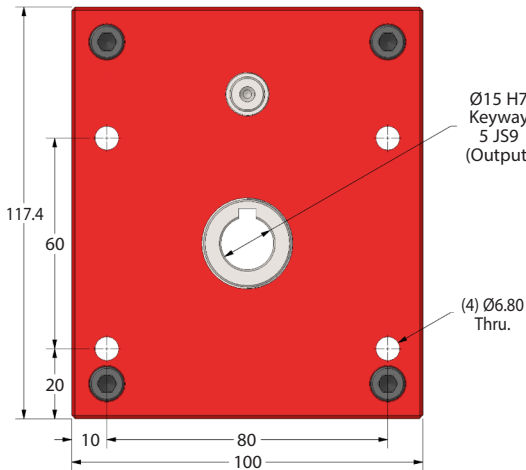
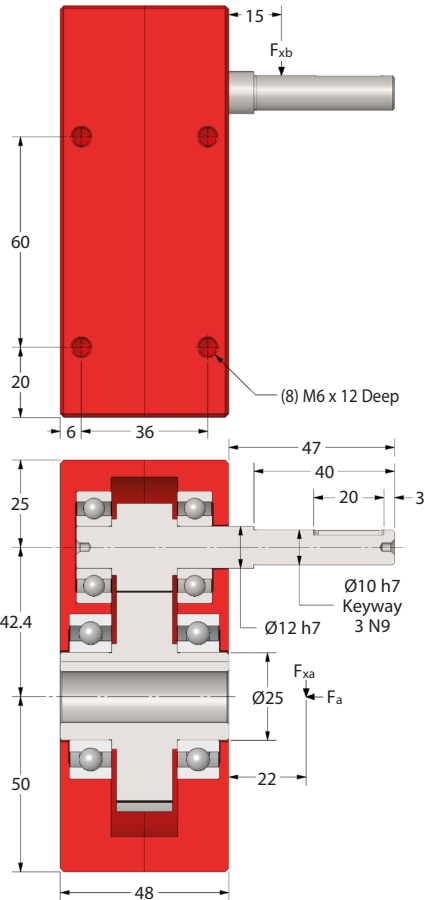
# GEARBOXES

## Slimline Parallel Spur Gear Reducer

10mm Shaft Input - 15mm Bore Output, 5.8 – 46 Nm **2:1 - 7:1**

e-cad  
Drawings  
Available

**FFS20**



Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FFS20-2	2:1	93%	10.80
FFS20-3	3:1	93%	10.20
FFS20-4	4:1	93%	9.50
FFS20-5	5:1	93%	8.20
FFS20-6	6:1	93%	7.80
FFS20-7	7:1	93%	6.90

**FFS20-XH**

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 1.9 kg (approx.).

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{ib}$ ) = 16 kg.

Output Overhung Load ( $F_{ob}$ ) = 40 kg. Output Thrust Load ( $F_a$ ) = 30 kg.

Input Keys: KK3-20. Output Keys: KKS-40.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	9.20	7.70	8.00	6.90	6.60	5.80
1000	10.80	10.20	9.50	8.20	7.80	6.90
500	12.50	11.80	11.00	9.60	9.00	8.20
200	15.00	14.20	13.10	11.50	10.80	9.80
100	16.70	15.70	14.60	12.80	12.00	10.90
50	19.20	18.10	16.80	14.15	13.80	12.50
10	23.00	21.60	20.00	17.50	16.50	15.00

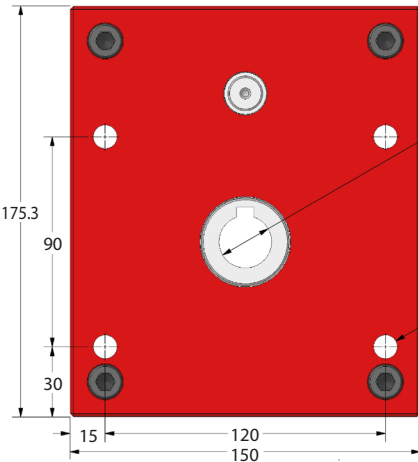
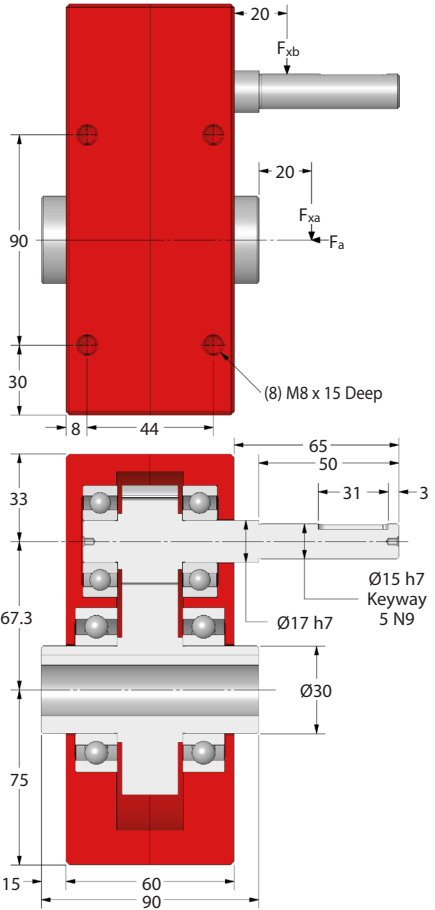
**FF30**

**e-cad**  
Drawings  
Available

# GEARBOXES

## Parallel Spur Gear Reducer

15mm Shaft Input - 20mm Bore Output, 21.5 – 166 Nm **2:1 - 7:1**



Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF30-2	2:1	93%	39.10
FF30-3	3:1	93%	34.40
FF30-4	4:1	93%	29.80
FF30-5	5:1	93%	28.70
FF30-6	6:1	93%	27.30
FF30-7	7:1	93%	25.10

FF30-XH

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 5.5 kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Geared for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{xa}$ ) = 20 kg, Output Overhung Load ( $F_{xb}$ ) = 60 kg, Output Thrust Load ( $F_a$ ) = 40 kg.

Input Keys: KK5-30, Output Keys: KK6-50.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	33.20	29.10	25.20	24.30	23.90	21.50
1000	39.10	34.40	29.80	28.70	27.30	25.10
500	45.20	39.70	34.40	33.10	31.60	28.80
200	54.30	47.60	41.30	39.70	38.20	34.00
100	60.40	52.90	45.90	44.20	43.40	39.10
50	69.00	60.08	43.00	50.80	49.30	45.20
10	83.00	72.70	63.00	60.70	59.20	54.40

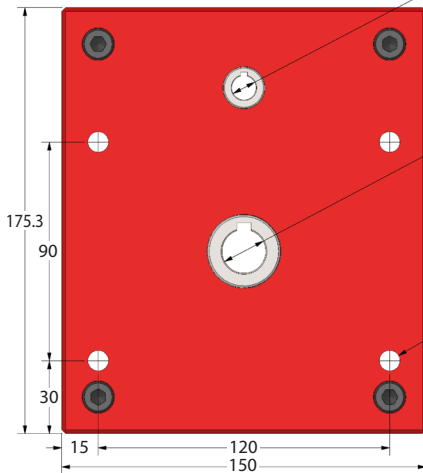
# GEARBOXES

## Bore Input Parallel Spur Gear Reducer

20mm Bore Output, 21.5 – 166 Nm **2:1 - 5:1**

e-cad  
Drawings  
Available

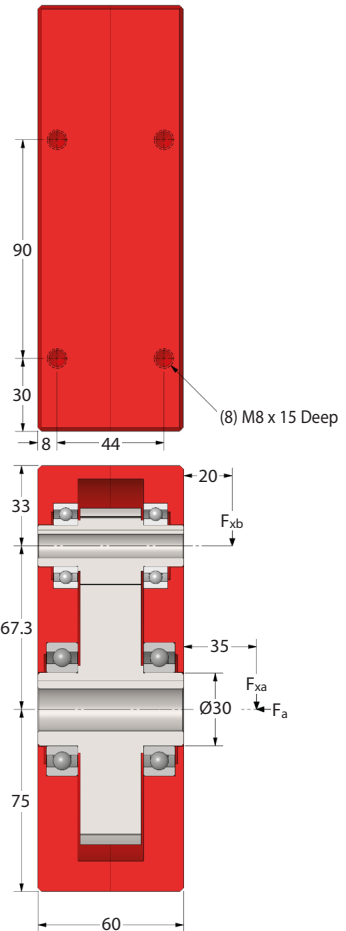
FFS30



ØB H7  
Keyway  
DIN 6885  
(Input)

Ø20 H7  
Keyway  
DIN 6885  
6 JS9  
(Output)

(4) Ø8.50  
Thru.



ØB = 8mm	Part Number ØB = 9mm	ØB = 10mm	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FFS30-2-8	FFS30-2-9	FFS30-2-10	2:1	93%	39.10
FFS30-3-8	FFS30-3-9	FFS30-3-10	3:1	93%	34.40
FFS30-4-8	FFS30-4-9	FFS30-4-10	4:1	93%	29.80
FFS30-5-8	FFS30-5-9	FFS30-5-10	5:1	93%	28.70

FFS30-XH-R-B\*

Hardened Gears 2:1 to 5:1 multiply All figures listed by 2

\* Please advise ratio (R) and input bore (B) when ordering hardened gears

e.g. FFS30-XH-3-9 = 3:1 ratio, 9mm input bore

Weight: 5.5 kg (approx.).

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{i0}$ ) = 20 kg.

Output Overhung Load ( $F_{o0}$ ) = 60 kg. Output Thrust Load ( $F_a$ ) = 40 kg.

Input Keys: KK2-22, KK2-25, KK3-40. Output Keys: KK6-50.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

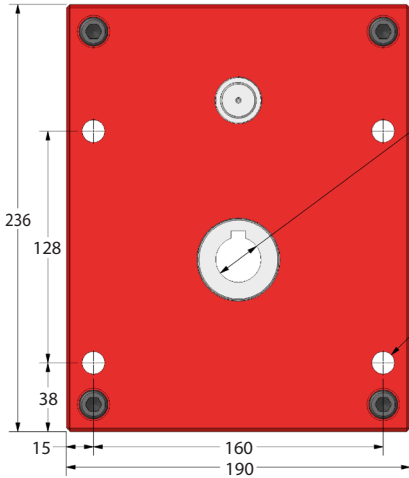
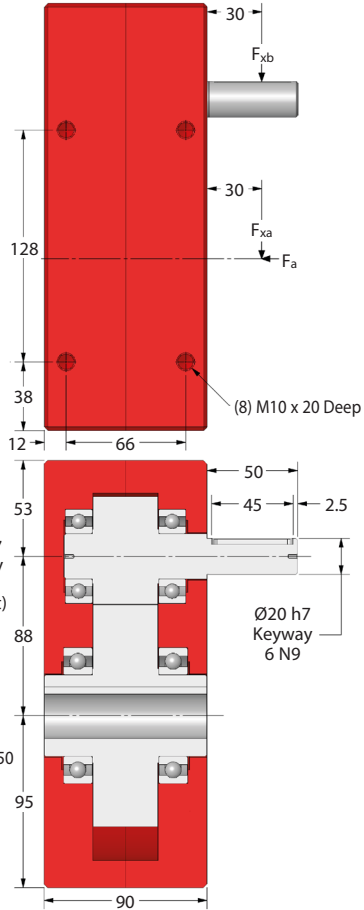
### Output Torque Nm

Rpm Input	Reduction Ratio			
	2:1	3:1	4:1	5:1
2000	33.20	29.10	25.20	24.30
1000	39.10	34.40	29.80	28.70
500	45.20	39.70	34.40	33.10
200	54.30	47.60	41.30	39.70
100	60.40	52.90	45.90	44.20
50	69.00	60.08	43.00	50.80
10	83.00	72.70	63.00	60.70

**FF40****e-cad**  
Drawings  
Available

# GEARBOXES

## Parallel Spur Gear Reducer

20mm Shaft Input - 25mm Bore Output, 59 – 420 Nm **2:1 - 7:1**

Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF40-2	2:1	93%	90
FF40-3	3:1	93%	90
FF40-4	4:1	93%	82
FF40-5	5:1	93%	76
FF40-6	6:1	93%	66
FF40-7	7:1	93%	64
FF40-XH		Hardened Gears 2:1 to 7:1 multiply All figures listed by 2	

Weight: 13.5kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Geared for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{ib}$ ) = 30 kg, Output Overhung Load ( $F_{ia}$ ) = 80 kg, Output Thrust Load ( $F_a$ ) = 50 kg.

Input Keys: KK6-45, Output Keys: KK8-7-50.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	83	83	76	70	61	59
1000	90	90	82	76	66	64
500	103	102	95	87	76	73
200	120	120	110	102	89	86
100	138	135	126	116	101	98
50	156	155	146	136	117	113
10	210	210	196	180	158	152

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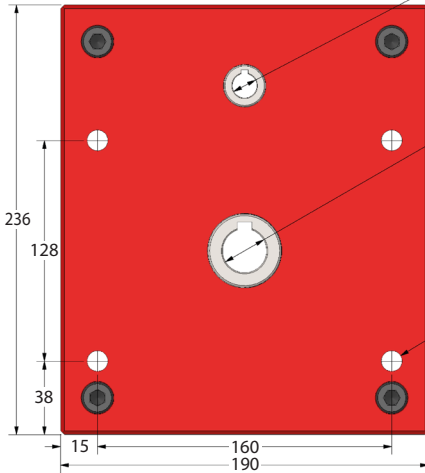
# GEARBOXES

e-cad  
Drawings  
Available

FFS40

## Bore Input Parallel Spur Gear Reducer

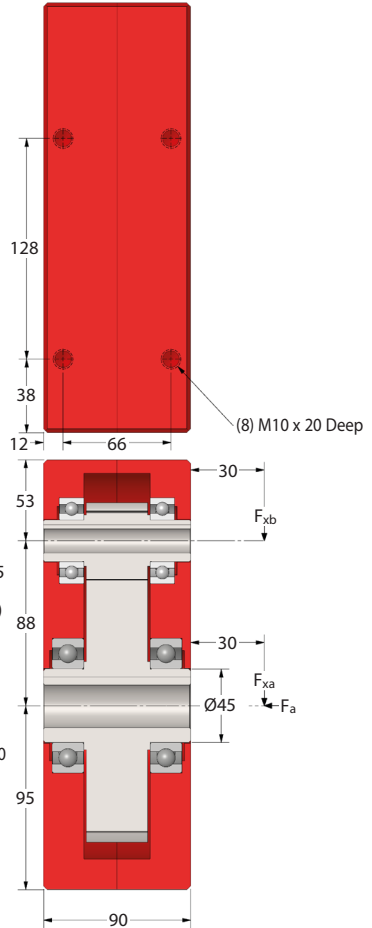
25mm Bore Output, 59 – 420 Nm **2:1 - 4:1**



ØB H7  
Keyway  
DIN 6885  
(Input)

Ø25 H7  
Keyway  
DIN 6885  
8 JS9  
(Output)

(4) Ø12.50  
Thru.



ØB = 12mm	Part Number	ØB = 14mm	ØB = 15mm	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FFS40-2-12	FFS40-2-14	FFS40-2-15		2:1	93%	90
FFS40-3-12	FFS40-3-14	FFS40-3-15		3:1	93%	90
FFS40-4-12	FFS40-4-14	FFS40-4-15		4:1	93%	82

Hardened Gears 2:1 to 4:1 multiply All figures listed by 2

\* Please advise ratio (R) and input bore (B) when ordering hardened gears  
e.g. FFS40-XH-3-14 = 3:1 ratio, 14mm input bore

Weight: 13.5 kg (approx).

Output Backlash: 1°

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{i0}$ ) = 30 kg.  
Output Overhung Load ( $F_{o0}$ ) = 80 kg. Output Thrust Load ( $F_a$ ) = 50 kg.

Input Keys: KK4-25, KK4-50, KK5-50. Output Keys: KK8-7-50.

Testing in your application is necessary.

You will need to assess duty cycles and confirm gearbox suitability with your own calculations.  
All figures listed are to be used for guidance only.

### Output Torque Nm

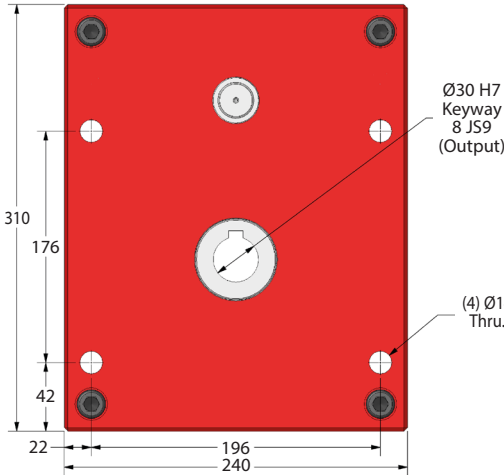
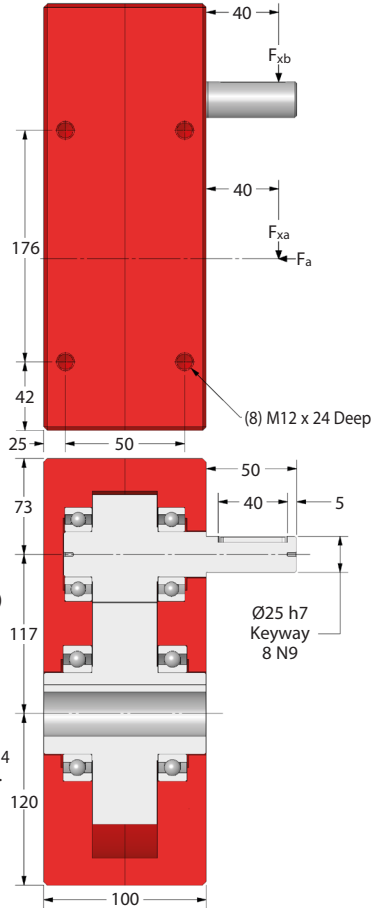
Rpm Input	Reduction Ratio		
	2:1	3:1	4:1
2000	83	83	76
1000	90	90	82
500	103	102	95
200	120	120	110
100	138	135	126
50	156	155	146
10	210	210	196



**FF50****e-cad**  
Drawings  
Available

# GEARBOXES

## Parallel Spur Gear Reducer

25mm Shaft Input - 30mm Bore Output, 111 – 850 Nm **2:1 - 7:1**

Part Number	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FF50-2	2:1	93%	180
FF50-3	3:1	93%	168
FF50-4	4:1	93%	160
FF50-5	5:1	93%	149
FF50-6	6:1	93%	130
FF50-7	7:1	93%	120

**FF50-XH**

Hardened Gears 2:1 to 7:1 multiply All figures listed by 2

Weight: 26.3 kg.

Output Backlash: 1°.

Max. Input Speed: 2,000 Rpm.

Geared for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{xb}$ ) = 40 kg.  
Output Overhung Load ( $F_{xa}$ ) = 100 kg. Output Thrust Load ( $F_a$ ) = 60 kg.

Input Keys: KK8-7-40. Output Keys: KK8-7-50.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm	Reduction Ratio					
	2:1	3:1	4:1	5:1	6:1	7:1
2000	166	156	147	138	120	111
1000	180	168	160	149	130	120
500	207	194	183	172	150	139
200	242	226	214	200	175	162
100	276	260	245	220	200	185
50	318	300	282	264	230	212
10	425	400	380	356	310	286

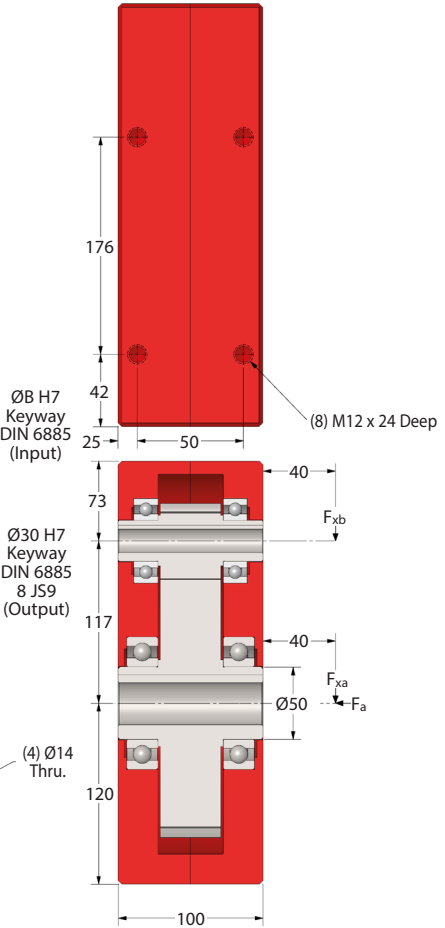
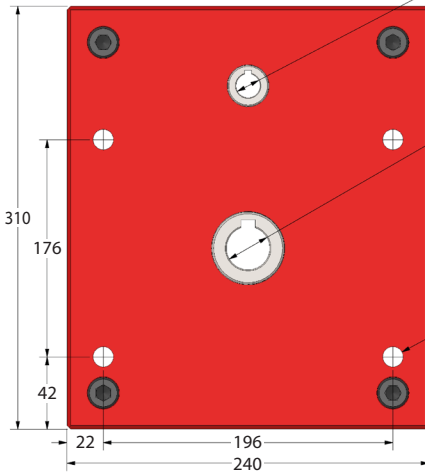
# GEARBOXES

e-cad  
Drawings  
Available

FFS50

## Bore Input Parallel Spur Gear Reducer

30mm Bore Output, 111 – 850 Nm **2:1 - 4:1**



ØB = 16mm	Part Number	ØB = 19mm	ØB = 20mm	Ratio	Efficiency at 1000 Rpm	Nm output at 1000 Rpm
FFS50-2-16	FFS50-2-19	FFS50-2-20		2:1	93%	180
FFS50-3-16	FFS50-3-19	FFS50-3-20		3:1	93%	168
FFS50-4-16	FFS50-4-19	FFS50-4-20		4:1	93%	160
FFS50-XH-R-B*				Hardened Gears 2:1 to 4:1 multiply All figures listed by 2		

\* Please advise ratio (R) and input bore (B) when ordering hardened gears  
e.g. FFS50-XH-3-19 = 3:1 ratio, 19mm input bore

Weight: 26.3 kg (approx).

Output Backlash: 1°

Max. Input Speed: 2,000 Rpm.

Greased for Life: Shell Gadus S5 V42P 2.5.

Max. Overhung and Thrust Loads at 1000 Rpm: Input Overhung Load ( $F_{i0}$ ) = 40 kg.  
Output Overhung Load ( $F_{o0}$ ) = 100 kg, Output Thrust Load ( $F_a$ ) = 60 kg.

Input Keys: KK5-30, KK5-50, KK6-50. Output Keys: KK8-7-50.

Testing in your application is necessary.

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

All figures listed are to be used for guidance only.

### Output Torque Nm

Rpm Input	Reduction Ratio		
	2:1	3:1	4:1
2000	166	156	147
1000	180	168	160
500	207	194	183
200	242	226	214
100	276	260	245
50	318	300	282
10	425	400	380

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