

Worm and wheel gearbox

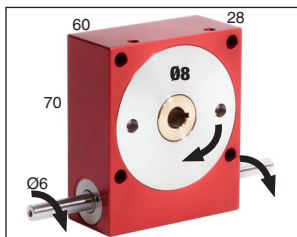


P30

Torque up to 8.8Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Cap: stainless steel
- Weight: 0,48 kg

High reduction ratios

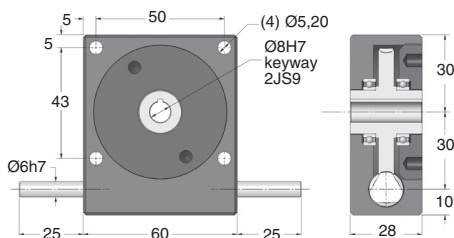


Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	2,50	2,50	2,60	2,70	3,00	3,50	3,40
2000	2,80	2,90	3,00	3,20	3,60	4,10	3,70
1000	3,50	3,70	4,00	4,20	4,50	5,00	4,60
500	4,60	4,70	4,90	5,10	5,30	5,80	5,40
200	5,40	5,60	5,70	5,90	6,20	6,60	6,40
100	6,00	6,00	6,50	6,50	7,00	7,50	6,70
50	7,50	7,80	8,00	8,30	8,30	8,60	6,70
10	8,00	8,00	8,30	8,50	8,50	8,80	6,70

DISCOUNTS

Qty	1+	2+	4+	6+
Disc.	List -10%	-15%	On request	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P30-10	10:1	90%	8,43 x 10 ⁻⁷	NO	✓	390,51 €
P30-12	12:1	88%	7,55 x 10 ⁻⁷	NO	-	390,51 €
P30-15	15:1	86%	6,92 x 10 ⁻⁷	NO	-	390,51 €
P30-20	20:1	84%	6,43 x 10 ⁻⁷	NO	-	390,51 €
P30-30	30:1	78%	6,08 x 10 ⁻⁷	NO	✓	390,51 €
P30-60	60:1	70%	5,87 x 10 ⁻⁷	YES	✓	390,51 €
P30-120	120:1	40%	5,72 x 10 ⁻⁷	YES	✓	390,51 €
P30-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			-	On request
P30-A		Reduced output backlash $\leq 0^{\circ}8'$			-	On request
P30-AR		Reduced output backlash $\leq 0^{\circ}4'$			-	On request

*Depending on availability - Dimensions in mm



Worm and wheel gearbox

Torque up to 8.8Nm

PF30

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3000 rpm
- Materials:

Casing: Anodised aluminium

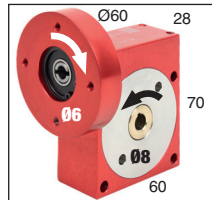
Input: non-hardened steel

Output: Bronze

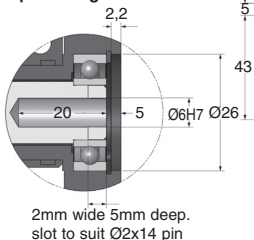
Cap: stainless steel

- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 0,59 kg

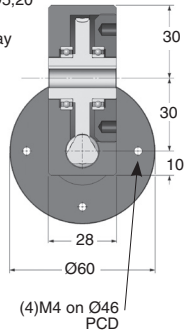
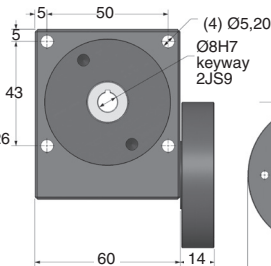
High reduction ratios



Input arrangement



2mm wide 5mm deep.
slot to suit Ø2x14 pin



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	2,50	2,50	2,60	2,70	3,00	3,50	3,40
2000	2,80	2,90	3,00	3,20	3,60	4,10	3,70
1000	3,50	3,70	4,00	4,20	4,50	5,00	4,60
500	4,60	4,70	4,90	5,10	5,30	5,80	5,40
200	5,40	5,60	5,70	5,90	6,20	6,60	6,40
100	6,00	6,00	6,50	6,50	7,00	7,50	6,70
50	7,50	7,80	8,00	8,30	8,30	8,60	6,70
10	8,00	8,00	8,30	8,50	8,50	8,80	6,70

DISCOUNTS

Qty	1+	2+	4+	6+
Disc.	List -10%	-15%	On request	

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Price each
PF30-10	10:1	90%	1,00 x 10 ⁻⁶	NO	484,22 €
PF30-12	12:1	88%	9,25 x 10 ⁻⁷	NO	484,22 €
PF30-15	15:1	86%	8,62 x 10 ⁻⁷	NO	484,22 €
PF30-20	20:1	84%	8,13 x 10 ⁻⁷	NO	484,22 €
PF30-30	30:1	78%	7,88 x 10 ⁻⁷	NO	484,22 €
PF30-60	60:1	70%	7,67 x 10 ⁻⁷	YES	484,22 €
PF30-120	120:1	40%	7,42 x 10 ⁻⁷	YES	484,22 €
PF30-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF30-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF30-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm



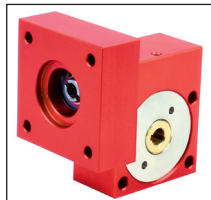
Worm and wheel gearbox

Torque up to 8.8Nm

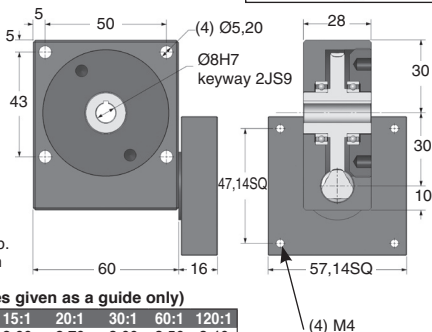
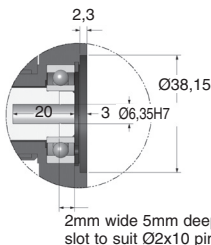
PF30NM

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Stainless steel cap
- Weight: 0,59 kg

NEMA 23 square flange



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	2,50	2,50	2,60	2,70	3,00	3,50	3,40
2000	2,80	2,90	3,00	3,20	3,60	4,10	3,70
1000	3,50	3,70	4,00	4,20	4,50	5,00	4,60
500	4,60	4,70	4,90	5,10	5,30	5,80	5,40
200	5,40	5,60	5,70	5,90	6,20	6,60	6,40
100	6,00	6,00	6,50	6,50	7,00	7,50	6,70
50	7,50	7,80	8,00	8,30	8,30	8,60	6,70
10	8,00	8,00	8,30	8,50	8,50	8,80	6,70

DISCOUNTS

Qty	1+	3+	6+	10+
Disc.	List -10%	-15%	On request	

Part number	Ratio	Reflected Inertia at Input (kg.m ²)	Efficiency at 1000 rpm	Self-locking output	Price each 1 to 2
PF30-10NM	10:1	1,00 x 10 ⁻⁶	90%	NO	368,09 €
PF30-12NM	12:1	9,25 x 10 ⁻⁷	88%	NO	368,09 €
PF30-15NM	15:1	8,62 x 10 ⁻⁷	86%	NO	368,09 €
PF30-20NM	20:1	8,13 x 10 ⁻⁷	84%	NO	368,09 €
PF30-30NM	30:1	7,88 x 10 ⁻⁷	78%	NO	368,09 €
PF30-60NM	60:1	7,67 x 10 ⁻⁷	70%	YES	368,09 €
PF30-120NM	120:1	7,42 x 10 ⁻⁷	40%	YES	368,09 €
PF30-SPNM	5:1 - 120:1	Special ratios from 5:1 to 120:1 or left handed			On request
PF30-ANM		Reduced output backlash $\leq 0^{\circ}8'$			On request

Dimensions in mm

Worm and wheel gearbox

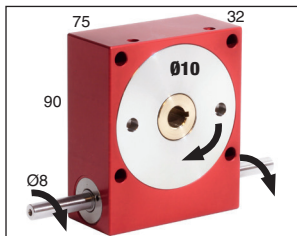


P40

Torque up to 18Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3,000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened
 - Output: Bronze
 - Cap: stainless steel
- Weight: 0,92 kg

High reduction ratios

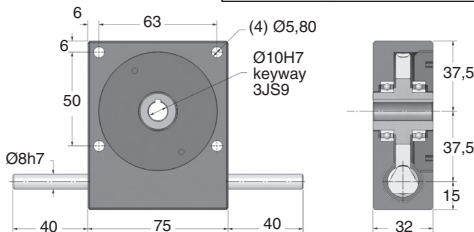


Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	5,00	5,20	5,40	5,60	6,40	7,20	6,50
2000	5,50	5,80	6,20	6,60	7,30	8,00	7,20
1000	7,10	7,50	8,00	8,20	9,00	10,00	8,70
500	8,90	9,10	9,60	10,00	10,50	11,40	10,20
200	11,60	11,90	12,30	12,50	13,50	14,20	11,70
100	13,40	13,60	14,10	14,60	15,30	16,00	12,30
50	15,10	15,50	16,20	16,40	17,30	17,60	12,30
10	17,60	17,60	17,60	17,70	17,80	18,00	12,30

DISCOUNTS

Qty	1+	2+	4+	6+
Disc.	List -10%	-15%	On request	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P40-10	10:1	89%	2,94 x 10 ⁻⁶	NO	✓	529,31 €
P40-12	12:1	87%	2,69 x 10 ⁻⁶	NO	-	529,31 €
P40-15	15:1	85%	2,49 x 10 ⁻⁶	NO	-	529,31 €
P40-20	20:1	83%	2,33 x 10 ⁻⁶	NO	✓	529,31 €
P40-30	30:1	76%	2,22 x 10 ⁻⁶	NO	-	529,31 €
P40-60	60:1	65%	2,15 x 10 ⁻⁶	YES	✓	529,31 €
P40-120	120:1	41%	2,10 x 10 ⁻⁶	YES	✓	529,31 €
P40-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			-	On request
P40-A		Reduced output backlash $\leq 0^{\circ}8'$			-	On request
P40-AR		Reduced output backlash $\leq 0^{\circ}4'$			-	On request

*Depending on availability - Dimensions in mm



Worm and wheel gearbox

Torque up to 18Nm

PF40

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3,000 rpm
- Materials:

Casing: Anodised aluminium

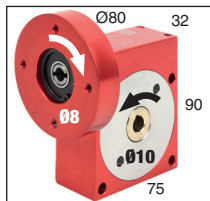
Input: non-hardened steel

Output: Bronze

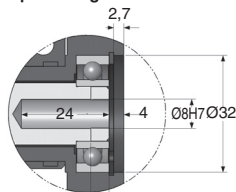
Cap: stainless steel

- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 1,15 kg

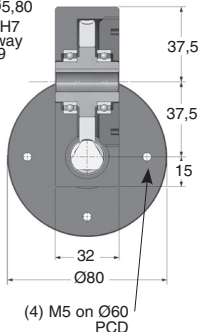
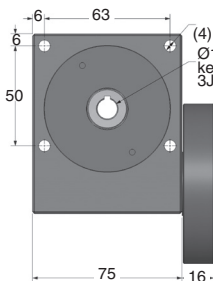
High reduction ratios



Input arrangement



2mm wide 5mm deep.
slot to suit Ø2x14 pin



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	5,00	5,20	5,40	5,60	6,40	7,20	6,50
2000	5,50	5,80	6,20	6,60	7,30	8,00	7,20
1000	7,10	7,50	8,00	8,20	9,00	10,00	8,70
500	8,90	9,10	9,60	10,00	10,50	11,40	10,20
200	11,60	11,90	12,30	12,50	13,50	14,20	11,70
100	13,40	13,60	14,10	14,60	15,30	16,00	12,30
50	15,10	15,50	16,20	16,40	17,30	17,60	12,30
10	17,60	17,60	17,60	17,70	17,80	18,00	12,30

DISCOUNTS

Qty	1+	2+	4+	6+
Disc.	List -10%	List -15%	On request	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Anti-back drive	Price each
PF40-10	10:1	89%	$3,78 \times 10^{-6}$	NO	657,45 €
PF40-12	12:1	87%	$3,62 \times 10^{-6}$	NO	657,45 €
PF40-15	15:1	85%	$3,49 \times 10^{-6}$	NO	657,45 €
PF40-20	20:1	83%	$3,39 \times 10^{-6}$	NO	657,45 €
PF40-30	30:1	76%	$3,32 \times 10^{-6}$	NO	657,45 €
PF40-60	60:1	65%	$3,27 \times 10^{-6}$	YES	657,45 €
PF40-120	120:1	41%	$3,26 \times 10^{-6}$	YES	657,45 €
PF40-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF40-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF40-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm

Worm and wheel gearbox

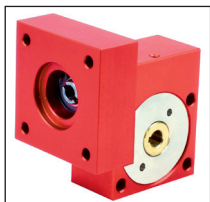


PF40NM

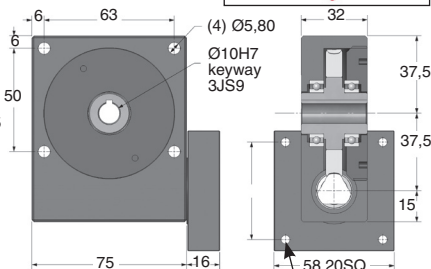
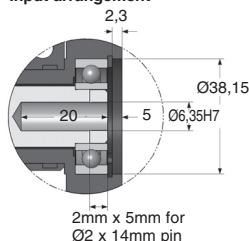
Torque up to 18Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Stainless steel cap
- Weight: 1,15 kg

NEMA 23 square flange



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	5,00	5,20	5,40	5,60	6,40	7,20	6,50
2000	5,50	5,80	6,20	6,60	7,30	8,00	7,20
1000	7,10	7,50	8,00	8,20	9,00	10,00	8,70
500	8,90	9,10	9,60	10,00	10,50	11,40	10,20
200	11,60	11,90	12,30	12,50	13,50	14,20	11,70
100	13,40	13,60	14,10	14,60	15,30	16,00	12,30
50	15,10	15,50	16,20	16,40	17,30	17,60	12,30
10	17,60	17,60	17,60	17,70	17,80	18,00	12,30

DISCOUNTS

Qty	1+	3+	6+	10+
Disc.	List -10%	-15%	On request	

Part number	Ratio	Reflected Inertia at Input (kg.m ²)	Efficiency at 1000 rpm	Self-locking output	Price each 1 to 2
PF40-10NM	10:1	$3,78 \times 10^{-6}$	89%	NO	499,77 €
PF40-12NM	12:1	$3,62 \times 10^{-6}$	87%	NO	499,77 €
PF40-15NM	15:1	$3,49 \times 10^{-6}$	85%	NO	499,77 €
PF40-20NM	20:1	$3,39 \times 10^{-6}$	83%	NO	499,77 €
PF40-30NM	30:1	$3,32 \times 10^{-6}$	76%	NO	499,77 €
PF40-60NM	60:1	$3,27 \times 10^{-6}$	65%	YES	499,77 €
PF40-120NM	120:1	$3,26 \times 10^{-6}$	41%	YES	499,77 €
PF40-SPNM	5:1 - 120:1	Special ratios from 5:1 to 120:1 or left handed			On request
PF40-ANM		Reduced output backlash $\leq 0^{\circ}8'$			On request

Dimensions in mm

Worm and wheel gearbox



P45

Torque up to 40Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Cap: stainless steel
- Weight: 1,70 kg

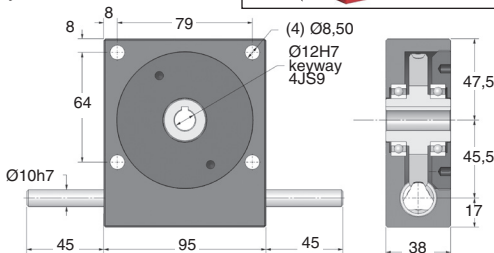
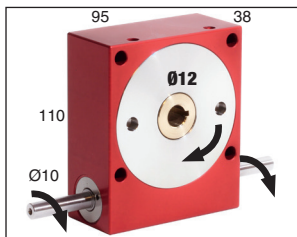
High reduction ratios

Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	10,30	10,80	11,30	12,20	13,20	14,70	10,80
2000	11,70	12,20	12,70	13,20	14,70	17,10	12,70
1000	14,70	15,20	16,20	17,10	18,10	20,60	14,30
500	19,10	19,60	20,60	21,60	22,50	24,50	17,50
200	24,40	25,50	26,40	27,00	28,90	30,00	20,60
100	28,30	28,90	29,40	30,30	31,80	33,80	22,80
50	32,30	32,80	33,80	34,30	34,50	35,20	23,00
10	39,90	39,90	39,90	40,00	40,00	40,00	23,00

DISCOUNTS

Qty	1+	2+	4+
Disc. List	-5%	On request	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P45-10	10:1	90%	6,15 x 10 ⁻⁶	NO	✓	637,92 €
P45-12	12:1	89%	5,32 x 10 ⁻⁶	NO	-	637,92 €
P45-15	15:1	86%	4,64 x 10 ⁻⁶	NO	-	580,41 €
P45-20	20:1	85%	4,11 x 10 ⁻⁶	NO	✓	637,92 €
P45-30	30:1	78%	3,73 x 10 ⁻⁶	NO	✓	637,92 €
P45-60	60:1	67%	3,51 x 10 ⁻⁶	YES	✓	637,92 €
P45-120	120:1	47%	2,88 x 10 ⁻⁶	YES	✓	637,92 €
P45-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			-	On request
P45-A		Reduced output backlash $\leq 0^{\circ}8'$			-	On request
P45-AR		Reduced output backlash $\leq 0^{\circ}4'$			-	On request

*Depending on availability - Dimensions in mm



Worm and wheel gearbox

Torque up to 40Nm

PF45

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3000 rpm
- Materials:

Casing: Anodised aluminium

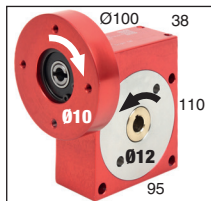
Input: non-hardened steel

Output: Bronze

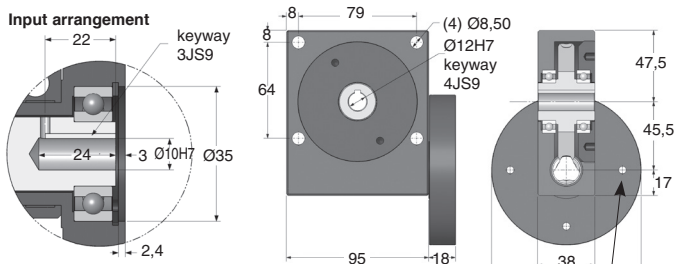
Cap: stainless steel

- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 1,15 kg

High reduction ratios



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	10,30	10,80	11,30	12,20	13,20	14,70	10,80
2000	11,70	12,20	12,70	13,20	14,70	17,10	12,70
1000	14,70	15,20	16,20	17,10	18,10	20,60	14,30
500	19,10	19,60	20,60	21,60	22,50	24,50	17,50
200	24,40	25,50	26,40	27,00	28,90	30,00	20,60
100	28,30	28,90	29,40	30,30	31,80	33,80	22,80
50	32,30	32,80	33,80	34,30	34,50	35,20	23,00
10	39,90	39,90	39,90	40,00	40,00	40,00	23,00

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Price each
PF45-10	10:1	90%	$7,34 \times 10^{-6}$	NO	792,30 €
PF45-12	12:1	89%	$6,84 \times 10^{-6}$	NO	792,30 €
PF45-15	15:1	86%	$6,43 \times 10^{-6}$	NO	792,30 €
PF45-20	20:1	85%	$6,09 \times 10^{-6}$	NO	792,30 €
PF45-30	30:1	78%	$5,86 \times 10^{-6}$	NO	792,30 €
PF45-60	60:1	67%	$5,70 \times 10^{-6}$	YES	792,30 €
PF45-120	120:1	47%	$5,66 \times 10^{-6}$	YES	792,30 €
PF45-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF45-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF45-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm

Worm and wheel gearbox

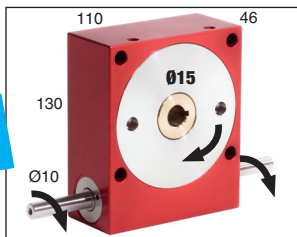


P55

Torque up to 57Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
Casing: anodised aluminium
Input: non-hardened steel
Output: Bronze
Cap: stainless steel
- Weight: 2,40 kg

High reduction ratios

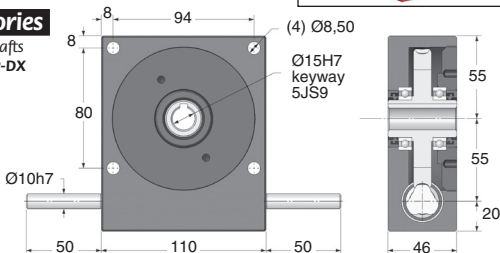


Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	13,40	14,00	14,80	16,20	17,60	20,40	18,00
2000	16,20	16,90	18,30	19,10	20,40	23,90	20,00
1000	21,10	22,50	23,20	24,60	25,30	28,80	25,00
500	27,40	28,10	28,80	30,20	31,60	35,10	30,00
200	34,40	35,10	36,50	37,90	39,30	42,10	36,00
100	40,00	41,40	42,10	42,80	44,90	46,30	38,00
50	45,60	46,30	47,70	48,40	49,80	50,50	38,00
10	56,80	56,80	56,80	57,00	57,00	57,00	38,00

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P55-10	10:1	89%	1,35 x 10 ⁻⁵	NO	✓	755,98 €
P55-12	12:1	88%	1,13 x 10 ⁻⁵	NO	✓	755,98 €
P55-15	15:1	86%	9,81 x 10 ⁻⁶	NO	✓	755,98 €
P55-20	20:1	84%	8,63 x 10 ⁻⁶	NO	✓	755,98 €
P55-30	30:1	78%	7,79 x 10 ⁻⁶	NO	✓	755,98 €
P55-60	60:1	69%	7,23 x 10 ⁻⁶	YES	✓	756,02 €
P55-120	120:1	47%	7,04 x 10 ⁻⁶	YES	-	755,98 €
P55-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed		-	-	On request
P55-A	Reduced output backlash $\leq 0^{\circ}8'$			-	-	On request
P55-AR	Reduced output backlash $\leq 0^{\circ}4'$			-	-	On request

*Depending on availability - Dimensions in mm



Worm and wheel gearbox

Torque up to 57Nm

PF55

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3000 rpm
- Materials:

Casing: Anodised aluminium

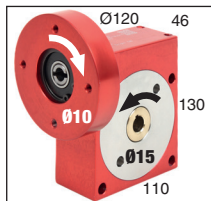
Input: non-hardened steel

Output: Bronze

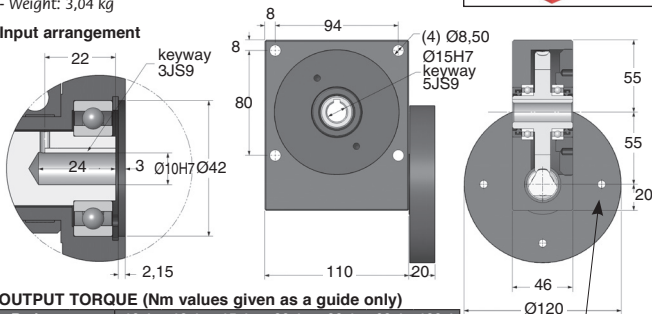
Cap: stainless steel

- The angle of the input flange is not aligned
- Verify it is suitable for use with your motor
- Weight: 3,04 kg

High reduction ratios



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	13,40	14,00	14,80	16,20	17,60	20,40	18,00
2000	16,20	16,90	18,30	19,10	20,40	23,90	20,00
1000	21,10	22,50	23,20	24,60	25,30	28,80	25,00
500	27,40	28,10	28,80	30,20	31,60	35,10	30,00
200	34,40	35,10	36,50	37,90	39,30	42,10	36,00
100	40,00	41,40	42,10	42,80	44,90	46,30	38,00
50	45,60	46,30	47,70	48,40	49,80	50,50	38,00
10	56,80	56,80	56,80	57,00	57,00	57,00	38,00

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Price each
PF55-10	10:1	89%	1,96 x 10 ⁻⁵	NO	939,03 €
PF55-12	12:1	88%	1,84 x 10 ⁻⁵	NO	939,03 €
PF55-15	15:1	86%	1,74 x 10 ⁻⁵	NO	939,03 €
PF55-20	20:1	84%	1,67 x 10 ⁻⁵	NO	939,03 €
PF55-30	30:1	78%	1,62 x 10 ⁻⁵	NO	939,03 €
PF55-60	60:1	69%	1,58 x 10 ⁻⁵	YES	939,03 €
PF55-120	120:1	47%	1,57 x 10 ⁻⁵	YES	939,03 €
PF55-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF55-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF55-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm

Worm and wheel gearbox



P60

Torque up to 118Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
 - Casing: anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Cap: stainless steel
- Weight: 4,10 kg

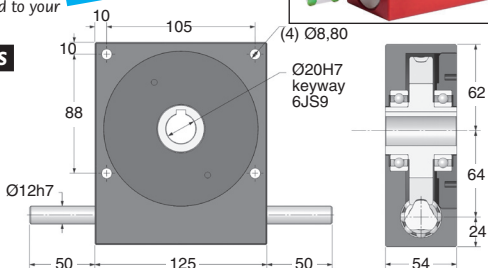
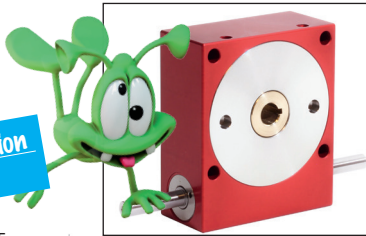
Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX

High reduction ratios



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	30	31	33	35	38	44	27
2000	33	36	39	41	44	50	32
1000	45	47	50	54	58	64	39
500	58	60	62	65	69	73	47
200	77	78	80	84	88	94	55
100	88	89	91	94	97	105	61
50	100	102	104	105	107	110	66
10	113	114	115	116	116	118	66

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P60-10	10:1	90%	2,93 x 10 ⁻⁵	NO	✓	955,66 €
P60-12	12:1	89%	2,46 x 10 ⁻⁵	NO	-	955,73 €
P60-15	15:1	85%	2,08 x 10 ⁻⁵	NO	-	955,66 €
P60-20	20:1	85%	1,78 x 10 ⁻⁵	NO	✓	955,66 €
P60-30	30:1	78%	1,57 x 10 ⁻⁵	NO	✓	955,66 €
P60-60	60:1	68%	1,44 x 10 ⁻⁵	YES	✓	955,66 €
P60-120	120:1	45%	9,54 x 10 ⁻⁶	YES	✓	955,66 €
P60-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			-	On request
P60-A		Reduced output backlash $\leq 0^{\circ}8'$			-	On request
P60-AR		Reduced output backlash $\leq 0^{\circ}4'$			-	On request

*Depending on availability - Dimensions in mm



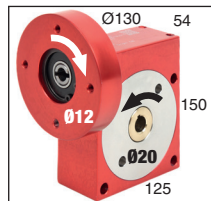
Worm and wheel gearbox

Torque up to 118Nm

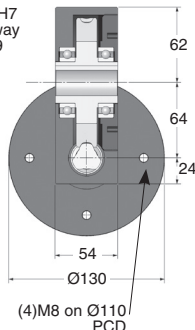
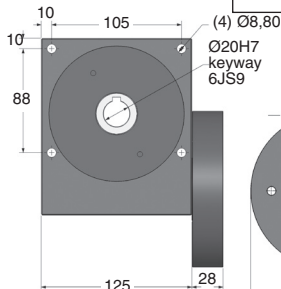
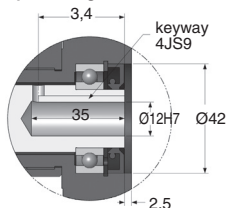
PF60

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3000 rpm
- Materials:
 - Casing: Anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Cap: stainless steel
- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 5,10 kg

High reduction ratios



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	30	31	33	35	38	44	27
2000	33	36	39	41	44	50	32
1000	45	47	50	54	58	64	39
500	58	60	62	65	69	73	47
200	77	78	80	84	88	94	55
100	88	89	91	94	97	105	61
50	100	102	104	105	107	110	66
10	113	114	115	116	116	118	66

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Price each
PF60-10	10:1	90%	$3,80 \times 10^{-5}$	NO	1 059,36 €
PF60-12	12:1	89%	$3,68 \times 10^{-5}$	NO	1 059,36 €
PF60-15	15:1	85%	$3,14 \times 10^{-5}$	NO	1 059,36 €
PF60-20	20:1	85%	$3,10 \times 10^{-5}$	NO	1 059,36 €
PF60-30	30:1	78%	$2,88 \times 10^{-5}$	NO	1 059,36 €
PF60-60	60:1	68%	$2,82 \times 10^{-5}$	YES	1 059,36 €
PF60-120	120:1	45%	$2,79 \times 10^{-5}$	YES	1 059,36 €
PF60-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF60-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF60-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm

Worm and wheel gearbox



P70

Torque up to 164Nm

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max. input speed: 3000 rpm
- Materials:
Casing: anodised aluminium
Input: non-hardened steel
Output: Bronze
Cap: stainless steel
- Weight: 6,40 kg

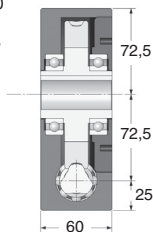
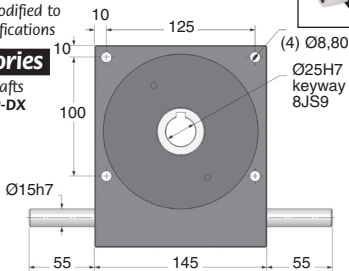
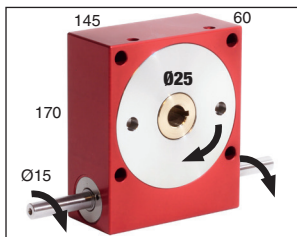
High reduction ratios

Options

- Can be modified to your specifications

Accessories

- Output shafts P-X and P-DX



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	38	40	42	45	50	56	38
2000	47	49	53	55	61	69	46
1000	61	65	67	71	73	83	55
500	77	81	83	87	91	100	66
200	99	101	105	107	113	121	77
100	115	119	121	123	129	133	86
50	129	133	137	139	144	146	90
10	160	160	160	164	164	164	90

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Stock*	Price each
P70-10	10:1	90%	6,04 x 10 ⁻⁵	NO	✓	1 061,22 €
P70-12	12:1	89%	5,03 x 10 ⁻⁵	NO	-	1 061,22 €
P70-15	15:1	86%	4,21 x 10 ⁻⁵	NO	✓	1 061,29 €
P70-20	20:1	85%	3,57 x 10 ⁻⁵	NO	✓	1 061,29 €
P70-30	30:1	78%	3,11 x 10 ⁻⁵	NO	✓	1 061,22 €
P70-60	60:1	67%	2,84 x 10 ⁻⁵	YES	✓	1 061,22 €
P70-120	120:1	50%	2,48 x 10 ⁻⁵	YES	-	1 061,22 €
P70-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed		-	-	On request
P70-A		Reduced output backlash $\leq 0^{\circ}8'$		-	-	On request
P70-AR		Reduced output backlash $\leq 0^{\circ}4'$		-	-	On request

*Depending on availability - Dimensions in mm



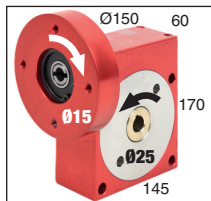
Worm and wheel gearbox

Torque up to 164Nm

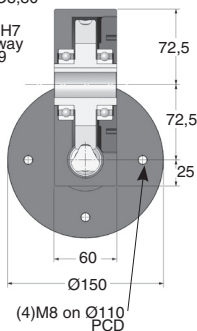
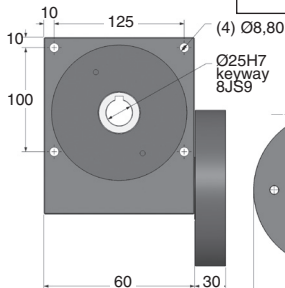
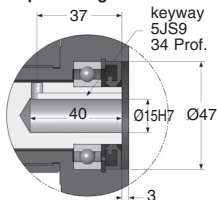
PF70

- Ratios from 5:1 to 120:1
- Output backlash $\leq 0^{\circ}30'$
- Max input speed: 3000 rpm
- Materials:
 - Casing: Anodised aluminium
 - Input: non-hardened steel
 - Output: Bronze
 - Cap: stainless steel
- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 7,90 kg

High reduction ratios



Input arrangement



OUTPUT TORQUE (Nm values given as a guide only)

Ratios	10:1	12:1	15:1	20:1	30:1	60:1	120:1
3000	38	40	42	45	50	56	38
2000	47	49	53	55	61	69	46
1000	61	65	67	71	73	83	55
500	77	81	83	87	91	100	66
200	99	101	105	107	113	121	77
100	115	119	121	123	129	133	86
50	129	133	137	139	144	146	90
10	160	160	160	164	164	164	90

DISCOUNTS

Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m ²)	Self-locking output	Price each
PF70-10	10:1	90%	4,81 x 10 ⁻⁵	NO	1 194,64 €
PF70-12	12:1	89%	4,19 x 10 ⁻⁵	NO	1 194,64 €
PF70-15	15:1	86%	3,70 x 10 ⁻⁵	NO	1 194,64 €
PF70-20	20:1	85%	3,28 x 10 ⁻⁵	NO	1 194,64 €
PF70-30	30:1	78%	3,00 x 10 ⁻⁵	NO	1 194,64 €
PF70-60	60:1	67%	2,89 x 10 ⁻⁵	YES	1 194,64 €
PF70-120	120:1	50%	2,76 x 10 ⁻⁵	YES	1 194,64 €
PF70-SP	5:1-120:1	Ratios from 5:1 to 120:1 or left handed			On request
PF70-A		Reduced output backlash $\leq 0^{\circ}8'$			On request
PF70-AR		Reduced output backlash $\leq 0^{\circ}4'$			On request

Dimensions in mm

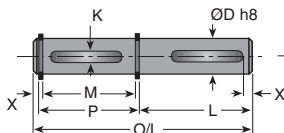
For P and PF gearboxes

Px Pdx

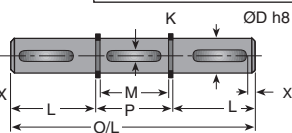
- **Optional accessory for adding outputs shafts**
to P and PF gearboxes

Composition

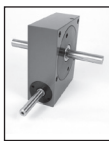
- Single sided shaft kit P-X: Stainless steel 303 shaft, 2 steel keys and 2 steel circlips
- Double sided shaft kit P-dx: Stainless steel 303 shaft, 3 steel keys and 2 steel circlips



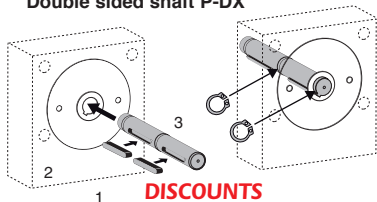
Single sided shaft P-X



Double sided shaft P-DX



Single sided Double sided
Typical applications



DISCOUNTS

Qty	1+	2+	4+	6+
Disc.	List	-10%	-15%	On request

Part number	For gearbox								Stock*	Price each
	ØD	O/L	M	P	X	L	K			
Single sided										
P20-X	P20-PF20	6	50,80	22	23,60	3,00	25	K2 x 22	✓	39,49 €
P30-X	P30-PF30	8	63,90	28	29,80	3,00	32	K2 x 22	✓	46,41 €
P40-X	P40-PF40	10	76,60	32	34,20	3,50	40	K3 x 20	✓	52,16 €
P45-X	P45-PF45	12	88,10	38	40,20	4,00	45	K4 x 25	-	56,03 €
P55-X	P55-PF55	15	101,10	46	48,20	4,00	50	K5 x 30	-	62,06 €
P60-X	P60-PF60	20	119,80	54	56,60	4,50	60	K6 x 32	-	72,95 €
P70-X	P70-PF70	25	135,80	60	62,60	4,50	70	K8 x 40	-	83,83 €
Double sided										
P20-DX	P20-PF20	6	73,60	22	23,60	1,50	25	K2 x 22	-	52,00 €
P30-DX	P30-PF30	8	93,80	28	29,80	5,45	32	K2 x 22	-	56,52 €
P40-DX	P40-PF40	10	114,20	32	34,20	9,90	40	K3 x 20	-	64,73 €
P45-DX	P45-PF45	12	130,20	38	40,20	4,00	45	K4 x 25	-	70,73 €
P55-DX	P55-PF55	15	148,20	46	48,20	9,90	50	K5 x 30	-	77,07 €
P60-DX	P60-PF60	20	176,60	54	56,60	4,50	60	K6 x 32	-	89,62 €
P70-DX	P70-PF70	25	202,50	60	62,60	4,50	70	K8 x 40	-	102,16 €

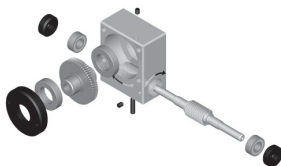
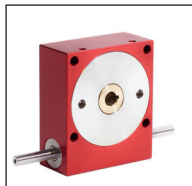
Dimensions in mm

Worm and wheel gearboxes

**P, P-A
P-AR**

Technical information

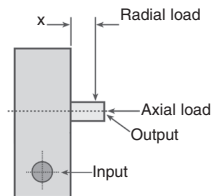
- **Ratios: From 5:1 to 120:1**
- **Materials :**
 - Housing - anodised aluminium
 - Worm - Steel
 - Wheel - Aluminium bronze
 - Stainless steel cap
- **Max input speed: 3,000 rpm**
- **Backlash(output):** $\leq 0^{\circ}30'$ (P), $\leq 0^{\circ}08'$ (P-A),
 $\leq 0^{\circ}04'$ (P-AR)
- **Lubrication: greased for life**
(Shell Gadus S5 V42P 2.5 grease)
- **Guarantee: 13 months**



**Standard P
P-A and P-AR range**

ADMISSIBLE LOADS

Part number	Distance 'X' (mm)	Input radial load (N)	Output Radial load (N)	Axial load (N)
P15	10	10	80	30
P20	10	20	120	50
P30	12	30	200	120
P40	15	50	300	200
P45	20	60	450	300
P55	20	140	600	400
P60	25	160	700	500
P70	30	200	800	600



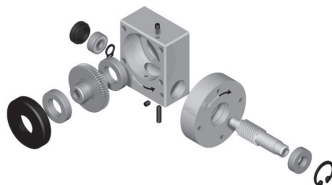
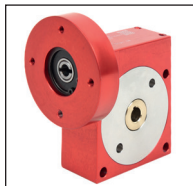
Data given based on input speed of 1,000 rpm.
values given as an indication only.

Worm and wheel gearboxes with input flange

Technical information

PF, PF-A
PF-AR

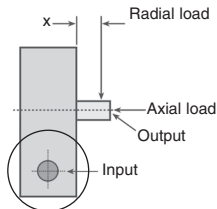
- Ratios: From 5:1 to 120:1
- Materials :
 - Housing - anodised aluminium
 - Worm - Steel
 - Wheel - Aluminium bronze
 - Stainless steel cap
- Max input speed: 3,000 rpm
- Backlash(output): $\leq 0^{\circ}30'$ (PF),
 $\leq 0^{\circ}08'$ (PF-A), $\leq 0^{\circ}04'$ (PF-AR)
- Lubrication: greased for life
(Shell Gadus S5 V42P 2.5)
- Guarantee: 13 months



Standard PF
PF-A and PF-AR range

ADMISSIBLE LOADS

Part number	Distance 'X' (mm)	Input Radial load (N)	Output Radial load (N)	Output Axial load (N)
PF15	10	10	80	30
PF20	10	20	120	50
PF30	12	30	200	120
PF40	15	50	300	200
PF45	20	60	450	300
PF55	20	140	600	400
PF60	25	160	700	500
PF70	30	200	800	600



Data given based on input speed of 1,000 rpm.
Values given as an indication only.