Worm and wheel gearbox

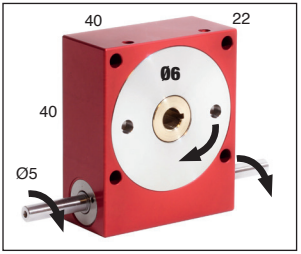
Stock | Size XS | 1 2 3 | ★★★

P15

Torque up to 3,75Nm

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°30'
- Max. input speed: 3000 rpm
- Materials:
  Casing: anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- Weight: 0,15 kg

High reduction ratios

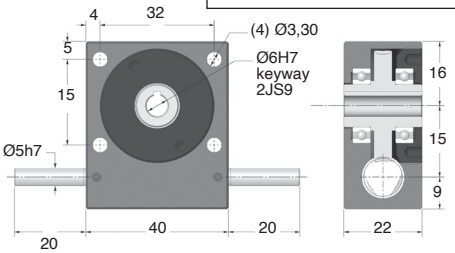


Options

- Can be modified to your specifications

Accessories

- Output shafts
  P20-X et **P20-DX**
  (tome 2 p.168)



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		6,66:1	8:1	10:1	13,33:1	20:1	40:1	80:1
	3000	1,05	1,13	1,20	1,28	1,43	1,58	0,94
	2000	1,28	1,28	1,35	1,35	1,58	1,80	1,07
	1000	1,58	1,73	1,73	1,88	2,03	2,18	1,28
INPUT	500	2,03	2,03	2,10	2,18	2,40	2,63	1,46
SPEED	200	2,55	2,63	2,63	2,78	2,93	3,08	1,70
(rpm)	100	2,93	2,93	3,08	3,15	3,23	3,38	1,91
	50	3,30	3,38	3,38	3,45	3,53	3,60	2,04
	10	3,60	3,60	3,68	3,68	3,75	3,75	2,04

DISCOUNTS

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

Part number	Ratios	Efficiency at 1000 t/min	Reflected inertia at input (kg.m²)	Static self-locking output	Stock*	Price each
P15-6	6,66:1	86%	$1,79x10^{-7}$	NO	-	369,99 €
P15-8	8:1	85%	$1,73x10^{-7}$	NO	-	369,99 €
P15-10	10:1	84%	$1,68x10^{-7}$	NO	✔	369,99 €
P15-13	13,33:1	78%	$1,65x10^{-7}$	NO	-	369,99 €
P15-20	20:1	71%	$1,62x10^{-7}$	NO	-	369,99 €
P15-40	40:1	60%	$1,61x10^{-7}$	NO	✔	369,99 €
P15-80	80:1	32%	$1,60x10^{-7}$	NO	-	369,99 €
P15-A	**Reduced output backlash ≤ 0°8'**					On request
P15-AR	**Reduced output backlash ≤ 0°4'**					On request

** Depending on availability - Dimensions in mm*

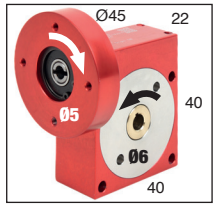
Worm and wheel gearbox

Torque up to 5Nm

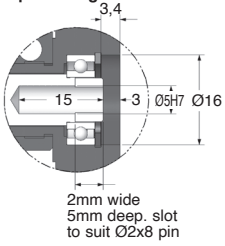
PF15

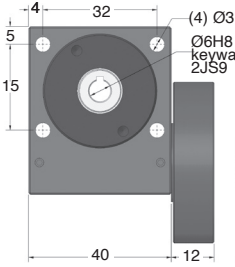
- ***Ratios from 6:1 to 80:1***
- *Output backlash ≤ 0°30'*
- *Max input speed: 3000 rpm*
- *Materials:*
  Casing: Anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- *The angle of the input flange is not positioned*
- *Verify it is suitable for use with your motor*
- *Weight: 0,21 kg*

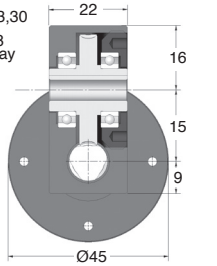
High reduction ratios



Input arrangement







OUTPUT TORQUE (Nm values given as a guide only)

Ratios		6,66:1	8:1	10:1	13,33:1	20:1	40:1	80:1
INPUT SPEED (rpm)	3000	1,05	1,13	1,20	1,28	1,43	1,58	0,94
	2000	1,28	1,28	1,35	1,35	1,58	1,80	1,07
	1000	1,58	1,73	1,73	1,88	2,03	2,18	1,28
	500	2,03	2,03	2,10	2,18	2,40	2,63	1,46
	200	2,55	2,63	2,63	2,78	2,93	3,08	1,70
	100	2,93	2,93	3,08	3,15	3,23	3,38	1,91
	50	3,30	3,38	3,38	3,45	3,53	3,60	2,04
	10	3,60	3,60	3,68	3,68	3,75	3,75	2,04

DISCOUNTS

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

Part number	Ratios	Efficiency at 1000 t/min	Reflected inertia at input (kg.m²)	Static self-locking output	Price each
PF15-6	6,66:1	86%	$1,79x10^{-7}$	NO	475,59 €
PF15-8	8:1	85%	$1,73x10^{-7}$	NO	475,59 €
PF15-10	10:1	84%	$1,68x10^{-7}$	NO	475,59 €
PF15-13	13,33:1	78%	$1,65x10^{-7}$	NO	475,59 €
PF15-20	20:1	71%	$1,62x10^{-7}$	NO	475,59 €
PF15-40	40:1	60%	$1,61x10^{-7}$	NO	475,59 €
PF15-80	80:1	32%	$1,60x10^{-7}$	NO	475,59 €
PF15-A	**Reduced output backlash ≤ 0°8'**				On request
PF15-AR	**Reduced output backlash ≤ 0°4'**				On request

** Depending on availability - Dimensions in mm*

Worm and wheel gearbox

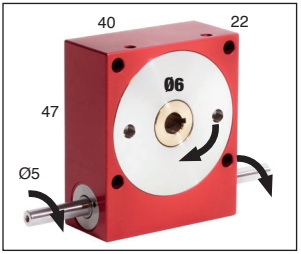
Size XS | Stock | ★★★

P20

Torque up to 5Nm

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°30'
- Max. input speed: 3000 rpm
- Materials:
  Casing: anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- Weight: 0,18 kg

High reduction ratios

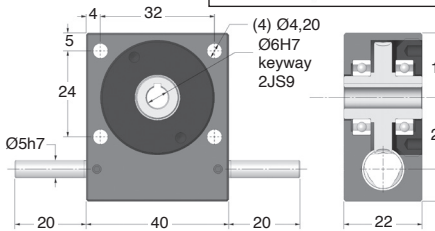


Options

- Can be modified to your specifications

Accessories

- Output shafts **P-X** and **P-DX** **(tome 2 p.168)**



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	3000	1,40	1,50	1,60	1,70	1,90	2,10	1,25
	2000	1,70	1,70	1,80	1,80	2,10	2,40	1,42
	1000	2,10	2,30	2,30	2,50	2,70	2,90	1,70
	500	2,70	2,70	2,80	2,90	3,20	3,50	1,94
	200	3,40	3,50	3,50	3,70	3,90	4,10	2,27
	100	3,90	3,90	4,10	4,20	4,30	4,50	2,55
	50	4,40	4,50	4,50	4,60	4,70	4,80	2,72
	10	4,80	4,80	4,90	4,90	5,00	5,00	2,72

DISCOUNTS

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

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Static self-locking output	Stock*	Price each
P20-10	10:1	86%	2,03 x 10^{-7}	NO	-	413,62 €
P20-12	12:1	85%	1,93 x 10^{-7}	NO	-	413,62 €
P20-15	15:1	84%	1,85 x 10^{-7}	NO	✔	413,62 €
P20-20	20:1	78%	1,78 x 10^{-7}	NO	-	413,62 €
P20-30	30:1	71%	1,74 x 10^{-7}	NO	✔	413,62 €
P20-60	60:1	60%	1,71 x 10^{-7}	YES	✔	413,62 €
P20-120	120:1	32%	1,50 x 10^{-7}	YES	✔	413,62 €
P20-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P20-A		**Reduced output backlash ≤ 0°8'**			-	On request
P20-AR		**Reduced output backlash ≤ 0°4'**			-	On request

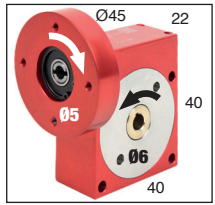
*Depending on availability - Dimensions in mm

Worm and wheel gearbox

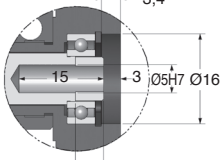
Torque up to 5Nm

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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: 0,23 kg*

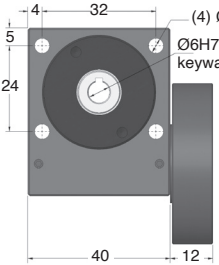
High reduction ratios

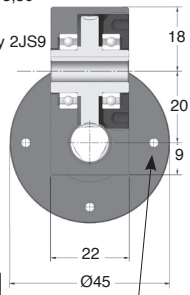


Input arrangement



2mm wide
5mm deep. slot
to suit Ø2x8 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
INPUT SPEED (rpm)	3000	1,40	1,50	1,60	1,70	1,90	2,10	1,25
	2000	1,70	1,70	1,80	1,80	2,10	2,40	1,42
	1000	2,10	2,30	2,30	2,50	2,70	2,90	1,70
	500	2,70	2,70	2,80	2,90	3,20	3,50	1,94
	200	3,40	3,50	3,50	3,70	3,90	4,10	2,27
	100	3,90	3,90	4,10	4,20	4,30	4,50	2,55
	50	4,40	4,50	4,50	4,60	4,70	4,80	2,72
	10	4,80	4,80	4,90	4,90	5,00	5,00	2,72

DISCOUNTS

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

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Static self-locking output	Price each
PF20-10	10:1	86%	2,53 x 10-7	NO	527,38 €
PF20-12	12:1	85%	2,43 x 10-7	NO	527,38 €
PF20-15	15:1	84%	2,35 x 10-7	NO	527,38 €
PF20-20	20:1	78%	2,28 x 10-7	NO	527,38 €
PF20-30	30:1	71%	2,24 x 10-7	NO	527,38 €
PF20-60	60:1	60%	2,21 x 10-7	YES	527,38 €
PF20-120	120:1	32%	2,00 x 10-7	YES	527,38 €
PF20-SP	5:1 - 120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF20-A		**Reduced output backlash ≤ 0°8'**			On request
PF20-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

Worm and wheel gearbox

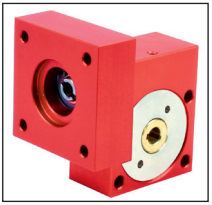
Size XS ★★★

PF20NM

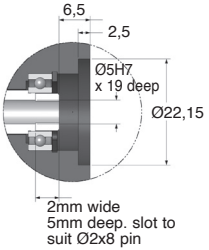
Torque up to 5Nm

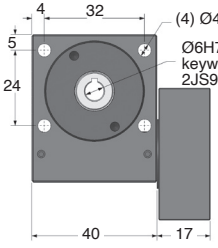
NEMA 17 square flange

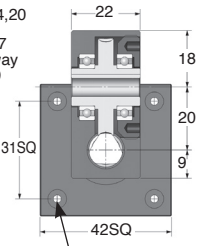
- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°30'*
- *Max. input speed: 3000 rpm*
- *Materials:*
  Casing: anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Stainless steel cap
- *Weight: 0,23 kg*



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
INPUT SPEED (rpm)	3000	1,40	1,50	1,60	1,70	1,90	2,10	1,25
	2000	1,70	1,70	1,80	1,80	2,10	2,40	1,42
	1000	2,10	2,30	2,30	2,50	2,70	2,90	1,70
	500	2,70	2,70	2,80	2,90	3,20	3,50	1,94
	200	3,40	3,50	3,50	3,70	3,90	4,10	2,27
	100	3,90	3,90	4,10	4,20	4,30	4,50	2,55
	50	4,40	4,50	4,50	4,60	4,70	4,80	2,72
	10	4,80	4,80	4,90	4,90	5,00	5,00	2,72

DISCOUNTS

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

Part number	Ratio	Reflected Inertia at Input (kg.m²)	Efficiency at 1000 rpm	Self-locking output	Price each 1 to 2
PF20-10NM	10:1	2,53 x 10⁻⁷	86%	NO	527,38 €
PF20-12NM	12:1	2,43 x 10⁻⁷	85%	NO	527,38 €
PF20-15NM	15:1	2,35 x 10⁻⁷	84%	NO	527,38 €
PF20-20NM	20:1	2,28 x 10⁻⁷	78%	NO	527,38 €
PF20-30NM	30:1	2,24 x 10⁻⁷	71%	NO	527,38 €
PF20-60NM	60:1	2,21 x 10⁻⁷	60%	YES	527,38 €
PF20-120NM	120:1	2,00 x 10⁻⁷	32%	YES	527,38 €
PF20-SPNM	5:1 - 120:1	**Special ratios from 5:1 to 120:1 or left handed**			On request
PF20-ANM		**Reduced output backlash ≤ 0°8'**			On request

Dimensions in mm

MINIMUM ORDER 20€*

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VOLUME DISCOUNT

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DELIVERY 24/48 H*

* Certain conditions apply - Deliveries to mainland France only

Worm and wheel gearbox

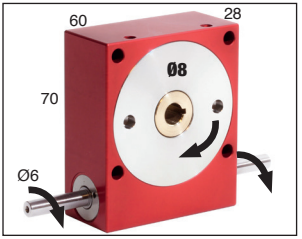
Stock 1 2 3 ★★★

P30

Torque up to 8.8Nm

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°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

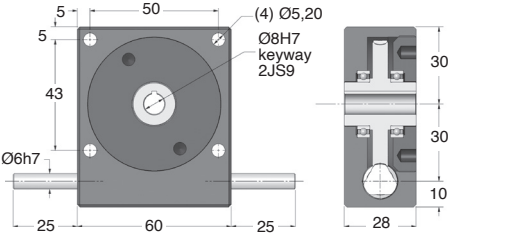


Options

- Can be modified to your specifications

Accessories

- Output shafts **P-X** and **P-DX** **(tome 2 p.168)**



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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.m²)	Static self-locking output	Stock*	Price each
P30-10	10:1	90%	8,43 x 10^{-7}	NO	✔	511,59 €
P30-12	12:1	88%	7,55 x 10^{-7}	NO	-	511,59 €
P30-15	15:1	86%	6,92 x 10^{-7}	NO	-	511,59 €
P30-20	20:1	84%	6,43 x 10^{-7}	NO	-	511,59 €
P30-30	30:1	78%	6,08 x 10^{-7}	NO	-	511,59 €
P30-60	60:1	70%	5,87 x 10^{-7}	YES	✔	511,59 €
P30-120	120:1	40%	5,72 x 10^{-7}	YES	✔	511,59 €
P30-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P30-A		**Reduced output backlash ≤ 0°8'**			-	On request
P30-AR		**Reduced output backlash ≤ 0°4'**			-	On request

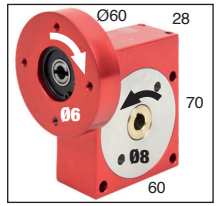
*Depending on availability - Dimensions in mm

Torque up to 8.8Nm

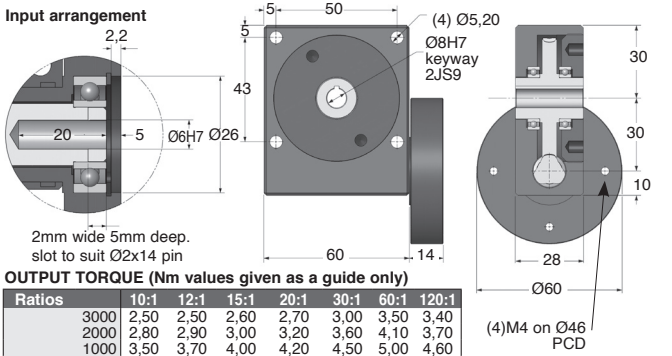
PF30

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°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
INPUT SPEED (rpm)	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.m²)	Static self-locking output	Price each
PF30-10	10:1	90%	1,00 x 10⁻⁶	NO	634,35 €
PF30-12	12:1	88%	9,25 x 10⁻⁷	NO	634,35 €
PF30-15	15:1	86%	8,62 x 10⁻⁷	NO	634,35 €
PF30-20	20:1	84%	8,13 x 10⁻⁷	NO	634,35 €
PF30-30	30:1	78%	7,88 x 10⁻⁷	NO	634,35 €
PF30-60	60:1	70%	7,67 x 10⁻⁷	YES	634,35 €
PF30-120	120:1	40%	7,42 x 10⁻⁷	YES	634,35 €
PF30-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF30-A		**Reduced output backlash ≤ 0°8'**			On request
PF30-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

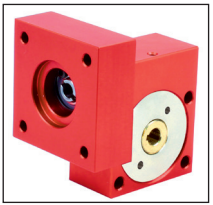
Worm and wheel gearbox

PF30NM

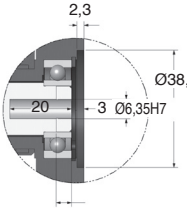
Torque up to 8.8Nm

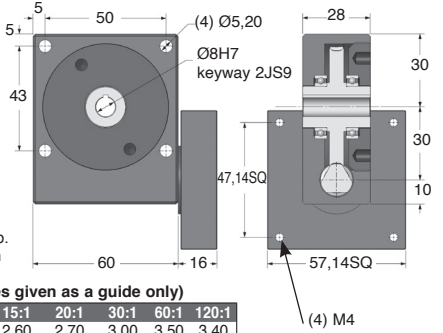
- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°30'*
- *Max. input speed: 3000 rpm*
- *Materials:*
  Casing: anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Stainless steel cap
- *Weight: 0,59 kg*

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
INPUT SPEED (rpm)	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

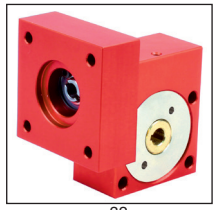
Qty	1+	3+	6+	10+
Disc.	List	-10%	-15%	On request

Part number	Ratio	Reflected Inertia at Input (kg.m²)	Efficiency at 1000 rpm	Self-locking output	Price each 1 to 2
PF30-10NM	10:1	1,00 x 10^{-6}	90%	NO	634,35 €
PF30-12NM	12:1	9,25 x 10^{-7}	88%	NO	634,35 €
PF30-15NM	15:1	8,62 x 10^{-7}	86%	NO	634,35 €
PF30-20NM	20:1	8,13 x 10^{-7}	84%	NO	634,35 €
PF30-30NM	30:1	7,88 x 10^{-7}	78%	NO	634,35 €
PF30-60NM	60:1	7,67 x 10^{-7}	70%	YES	634,35 €
PF30-120NM	120:1	7,42 x 10^{-7}	40%	YES	634,35 €
PF30-SPNM	5:1 - 120:1	**Special ratios from 5:1 to 120:1 or left handed**			On request
PF30-ANM		**Reduced output backlash ≤ 0°8'**			On request

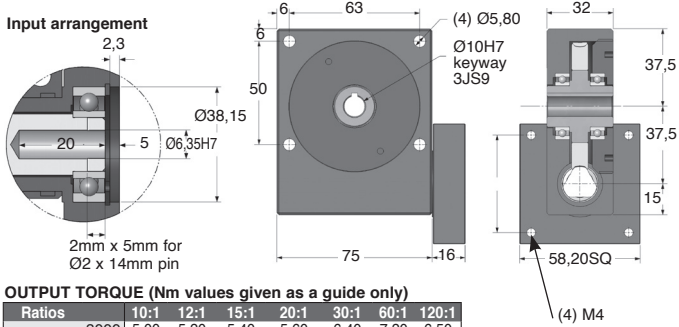
Dimensions in mm

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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
INPUT SPEED (rpm)	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.m²)	Efficiency at 1000 rpm	Self-locking output	Price each 1 to 2
PF40-10NM	10:1	3,78 x 10⁻⁶	89%	NO	861,27 €
PF40-12NM	12:1	3,62 x 10⁻⁶	87%	NO	861,27 €
PF40-15NM	15:1	3,49 x 10⁻⁶	85%	NO	861,27 €
PF40-20NM	20:1	3,39 x 10⁻⁶	83%	NO	861,27 €
PF40-30NM	30:1	3,32 x 10⁻⁶	76%	NO	861,27 €
PF40-60NM	60:1	3,27 x 10⁻⁶	65%	YES	861,27 €
PF40-120NM	120:1	3,26 x 10⁻⁶	41%	YES	861,27 €
PF40-SPNM	5:1 - 120:1	**Special ratios from 5:1 to 120:1 or left handed**			On request
PF40-ANM		**Reduced output backlash ≤ 0°8'**			On request

Dimensions in mm

Worm and wheel gearbox

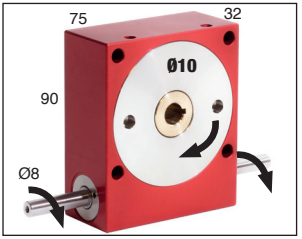
Stock 1 2 3 ★★★

P40

Torque up to 18Nm

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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

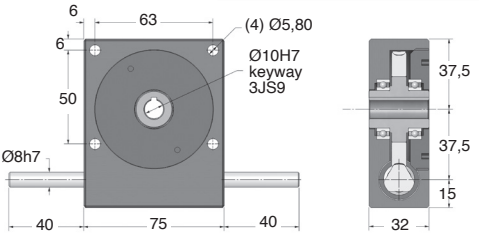


Options

- *Can be modified to your specifications*

Accessories

- *Output shafts* **P-X** *and* **P-DX** **(tome 2 p.168)**



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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

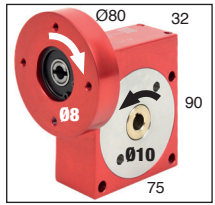
Qty	1+	2+	4+	6+
Disc.	List	-10%	-15%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Static self-locking output	Stock*	Price each
P40-10	10:1	89%	2,94 x 10^{-6}	NO	✔	693,42 €
P40-12	12:1	87%	2,69 x 10^{-6}	NO	-	693,42 €
P40-15	15:1	85%	2,49 x 10^{-6}	NO	-	693,42 €
P40-20	20:1	83%	2,33 x 10^{-6}	NO	✔	693,42 €
P40-30	30:1	76%	2,22 x 10^{-6}	NO	-	693,42 €
P40-60	60:1	65%	2,15 x 10^{-6}	YES	✔	693,42 €
P40-120	120:1	41%	2,10 x 10^{-6}	YES	-	693,42 €
P40-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P40-A		**Reduced output backlash ≤ 0°8'**			-	On request
P40-AR		**Reduced output backlash ≤ 0°4'**			-	On request

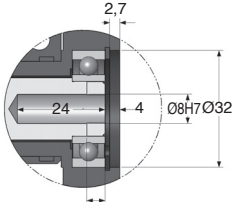
**Depending on availability - Dimensions in mm*

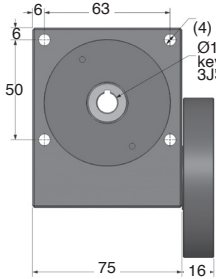
- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°30'*
- *Max input speed: 3,000 rpm*
- *Materials:*
  Casing: Anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- *The angle of the input flange is not positioned*
- *Verify it is suitable for use with your motor*
- *Weight: 1,15 kg*

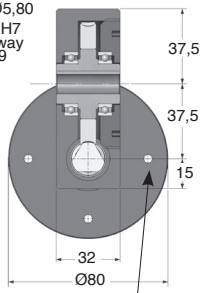
High reduction ratios



Input arrangement







OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Anti-back drive	Price each
PF40-10	10:1	89%	3,78 x 10^{-6}	NO	861,27 €
PF40-12	12:1	87%	3,62 x 10^{-6}	NO	861,27 €
PF40-15	15:1	85%	3,49 x 10^{-6}	NO	861,27 €
PF40-20	20:1	83%	3,39 x 10^{-6}	NO	861,27 €
PF40-30	30:1	76%	3,32 x 10^{-6}	NO	861,27 €
PF40-60	60:1	65%	3,27 x 10^{-6}	YES	861,27 €
PF40-120	120:1	41%	3,26 x 10^{-6}	YES	861,27 €
PF40-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF40-A		**Reduced output backlash ≤ 0°8'**			On request
PF40-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

Worm and wheel gearbox

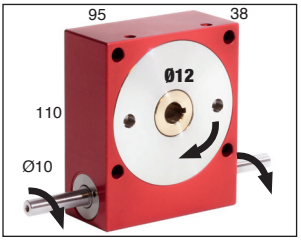
Stock 1 2 3 ★★★

P45

Torque up to 40Nm

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°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

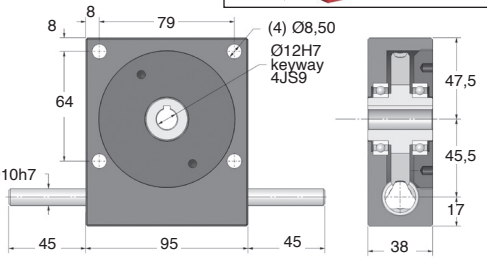


Options

- Can be modified to your specifications

Accessories

- Output shafts **P-X** and **P-DX** **(tome 2 p.168)**



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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.m²)	Self-locking output	Stock*	Price each
P45-10	10:1	90%	6,15 x 10⁻⁶	NO	✔	835,69 €
P45-12	12:1	89%	5,32 x 10⁻⁶	NO	-	835,69 €
P45-15	15:1	86%	4,64 x 10⁻⁶	NO	-	835,69 €
P45-20	20:1	85%	4,11 x 10⁻⁶	NO	✔	835,69 €
P45-30	30:1	78%	3,73 x 10⁻⁶	NO	✔	835,69 €
P45-60	60:1	67%	3,51 x 10⁻⁶	YES	✔	835,69 €
P45-120	120:1	47%	2,88 x 10⁻⁶	YES	✔	835,69 €
P45-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P45-A		**Reduced output backlash ≤ 0°8'**			-	On request
P45-AR		**Reduced output backlash ≤ 0°4'**			-	On request

*Depending on availability - Dimensions in mm

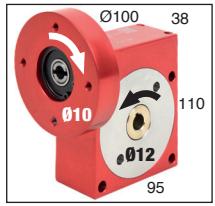
Worm and wheel gearbox

Torque up to 40Nm

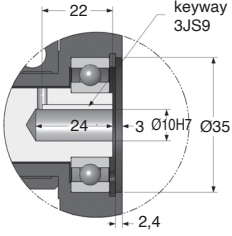
PF45

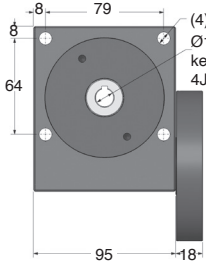
- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°30'
- Max input speed: 3000 rpm
- Materials:
  Casing: Anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: 2,10 kg

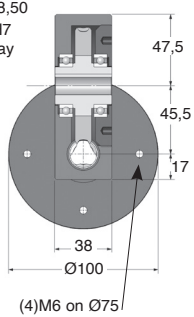
High reduction ratios



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
INPUT SPEED (rpm)	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.m²)	Self-locking output	Price each
PF45-10	10:1	90%	7,34 x 10⁻⁶	NO	1 037,94 €
PF45-12	12:1	89%	6,84 x 10⁻⁶	NO	1 037,94 €
PF45-15	15:1	86%	6,43 x 10⁻⁶	NO	1 037,94 €
PF45-20	20:1	85%	6,09 x 10⁻⁶	NO	1 037,94 €
PF45-30	30:1	78%	5,86 x 10⁻⁶	NO	1 037,94 €
PF45-60	60:1	67%	5,70 x 10⁻⁶	YES	1 037,94 €
PF45-120	120:1	47%	5,66 x 10⁻⁶	YES	1 037,94 €
PF45-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF45-A		**Reduced output backlash ≤ 0°8'**			On request
PF45-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

Worm and wheel gearbox

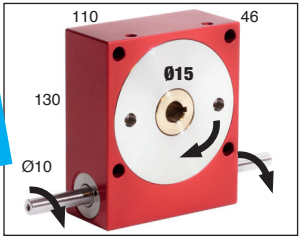
Stock 1 2 3 ★★★

P55

Torque up to 57Nm

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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

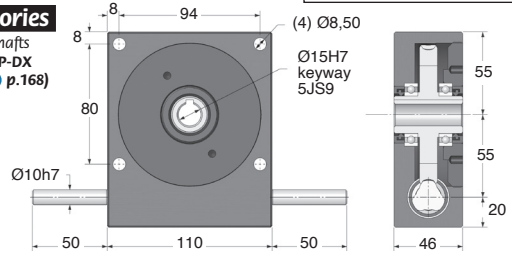


Options

- *Can be modified to your specifications*

Accessories

- *Output shafts*
  P-X** and **P-DX
  (tome 2 p.168)



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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

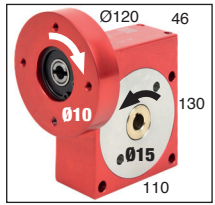
Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Self-locking output	Stock*	Price each
P55-10	10:1	89%	1,35 x 10^{-5}	NO	✔	990,35 €
P55-12	12:1	88%	1,13 x 10^{-5}	NO	✔	990,35 €
P55-15	15:1	86%	9,81 x 10^{-6}	NO	✔	990,35 €
P55-20	20:1	84%	8,63 x 10^{-6}	NO	-	990,35 €
P55-30	30:1	78%	7,79 x 10^{-6}	NO	-	990,35 €
P55-60	60:1	69%	7,23 x 10^{-6}	YES	✔	990,48 €
P55-120	120:1	47%	7,04 x 10^{-6}	YES	-	990,35 €
P55-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P55-A		**Reduced output backlash ≤ 0°8'**			-	On request
P55-AR		**Reduced output backlash ≤ 0°4'**			-	On request

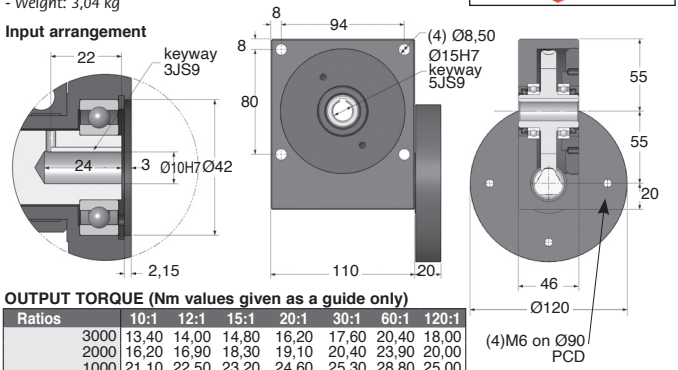
**Depending on availability - Dimensions in mm*

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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
INPUT SPEED (rpm)	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.m²)	Self-locking output	Price each
PF55-10	10:1	89%	1,96 x 10^{-5}	NO	1 230,16 €
PF55-12	12:1	88%	1,84 x 10^{-5}	NO	1 230,16 €
PF55-15	15:1	86%	1,74 x 10^{-5}	NO	1 230,16 €
PF55-20	20:1	84%	1,67 x 10^{-5}	NO	1 230,16 €
PF55-30	30:1	78%	1,62 x 10^{-5}	NO	1 230,16 €
PF55-60	60:1	69%	1,58 x 10^{-5}	YES	1 230,16 €
PF55-120	120:1	47%	1,57 x 10^{-5}	YES	1 230,16 €
PF55-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF55-A		**Reduced output backlash ≤ 0°8'**			On request
PF55-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

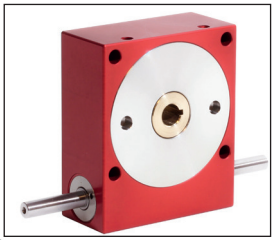
Worm and wheel gearbox

Stock 1 2 3 ★★★

P60

Torque up to 118Nm

- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°30'
- Max. input speed: 3000 rpm
- Materials:
  Casing: anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- Weight: 4,10 kg



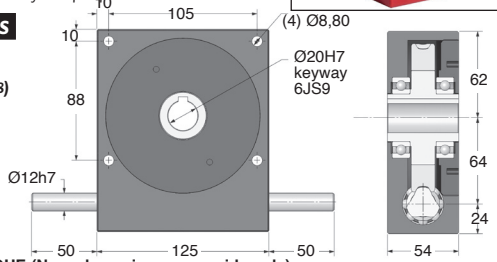
High reduction ratios

Options

- Can be modified to your specifications

Accessories

- Output shafts
  P-X and **P-DX**
  (tome 2 p.168)



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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

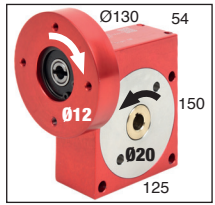
Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Self-locking output	Stock*	Price each
P60-10	10:1	90%	2,93 x 10^{-5}	NO	✔	1 251,95 €
P60-12	12:1	89%	2,46 x 10^{-5}	NO	-	1 251,95 €
P60-15	15:1	85%	2,08 x 10^{-5}	NO	-	1 251,95 €
P60-20	20:1	85%	1,78 x 10^{-5}	NO	-	1 251,95 €
P60-30	30:1	78%	1,57 x 10^{-5}	NO	✔	1 251,95 €
P60-60	60:1	68%	1,44 x 10^{-5}	YES	✔	1 251,95 €
P60-120	120:1	45%	9,54 x 10^{-6}	YES	-	1 251,95 €
P60-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P60-A		**Reduced output backlash ≤ 0°8'**			-	On request
P60-AR		**Reduced output backlash ≤ 0°4'**			-	On request

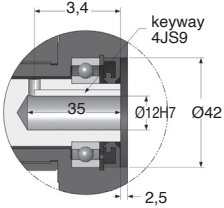
Depending on availability - Dimensions in mm

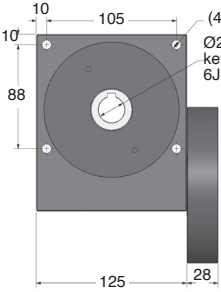
- **Ratios from 5:1 to 120:1**
- Output backlash ≤ 0°30'
- Max input speed: 3000 rpm
- Materials:
  Casing: Anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- The angle of the input flange is not positioned
- Verify it is suitable for use with your motor
- Weight: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

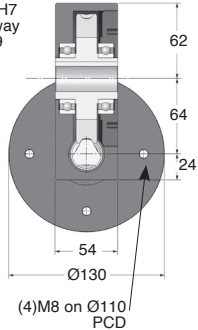
High reduction ratios



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
INPUT SPEED (rpm)	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.m²)	Self-locking output	Price each
PF60-10	10:1	90%	3,80 x 10⁻⁵	NO	1 387,79 €
PF60-12	12:1	89%	3,68 x 10⁻⁵	NO	1 387,79 €
PF60-15	15:1	85%	3,14 x 10⁻⁵	NO	1 387,79 €
PF60-20	20:1	85%	3,10 x 10⁻⁵	NO	1 387,79 €
PF60-30	30:1	78%	2,88 x 10⁻⁵	NO	1 387,79 €
PF60-60	60:1	68%	2,82 x 10⁻⁵	YES	1 387,79 €
PF60-120	120:1	45%	2,79 x 10⁻⁵	YES	1 387,79 €
PF60-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF60-A		**Reduced output backlash ≤ 0°8'**			On request
PF60-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

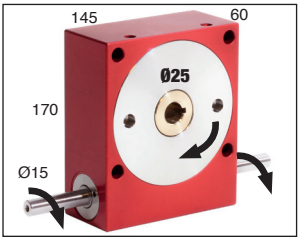
Worm and wheel gearbox

P70

Torque up to 164Nm

- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°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

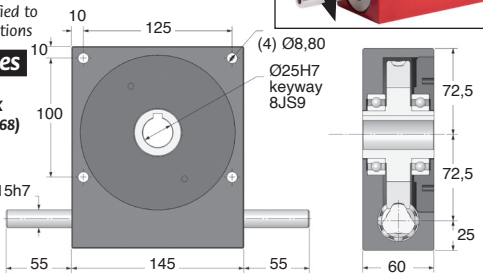


Options

- *Can be modified to your specifications*

Accessories

- *Output shafts* **P-X** *and* **P-DX** **(tome 2 p.168)**



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		10:1	12:1	15:1	20:1	30:1	60:1	120:1
INPUT SPEED (rpm)	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

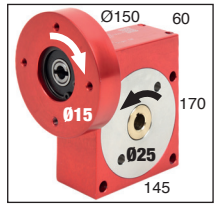
Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratios	Efficiency at 1000 rpm	Reflected inertia at input (kg.m²)	Self-locking output	Stock*	Price each
P70-10	10:1	90%	6,04 x 10^{-5}	NO	-	1 390,23 €
P70-12	12:1	89%	5,03 x 10^{-5}	NO	-	1 390,23 €
P70-15	15:1	86%	4,21 x 10^{-5}	NO	-	1 390,23 €
P70-20	20:1	85%	3,57 x 10^{-5}	NO	✔	1 390,23 €
P70-30	30:1	78%	3,11 x 10^{-5}	NO	✔	1 390,23 €
P70-60	60:1	67%	2,84 x 10^{-5}	YES	✔	1 390,23 €
P70-120	120:1	50%	2,48 x 10^{-5}	YES	-	1 390,23 €
P70-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			-	On request
P70-A		**Reduced output backlash ≤ 0°8'**			-	On request
P70-AR		**Reduced output backlash ≤ 0°4'**			-	On request

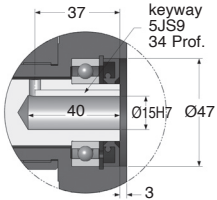
**Depending on availability - Dimensions in mm*

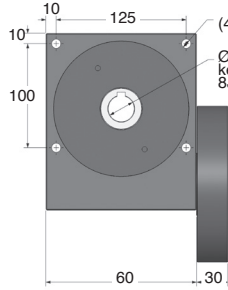
- ***Ratios from 5:1 to 120:1***
- *Output backlash ≤ 0°30'*
- *Max input speed: 3000 rpm*
- *Materials:*
  Casing: Anodised aluminium
  Input: non-hardened steel
  Output: Bronze
  Cap: stainless steel
- *The angle of the input flange is not positioned*
- *Verify it is suitable for use with your motor*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

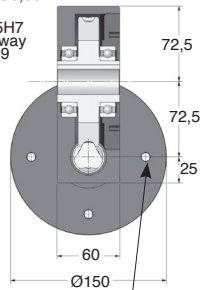
High reduction ratios



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
INPUT SPEED (rpm)	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.m²)	Self-locking output	Price each
PF70-10	10:1	90%	4,81 x 10^{-5}	NO	1 565,02 €
PF70-12	12:1	89%	4,19 x 10^{-5}	NO	1 565,02 €
PF70-15	15:1	86%	3,70 x 10^{-5}	NO	1 565,02 €
PF70-20	20:1	85%	3,28 x 10^{-5}	NO	1 565,02 €
PF70-30	30:1	78%	3,00 x 10^{-5}	NO	1 565,02 €
PF70-60	60:1	67%	2,89 x 10^{-5}	YES	1 565,02 €
PF70-120	120:1	50%	2,76 x 10^{-5}	YES	1 565,02 €
PF70-SP	5:1-120:1	**Ratios from 5:1 to 120:1 or left handed**			On request
PF70-A		**Reduced output backlash ≤ 0°8'**			On request
PF70-AR		**Reduced output backlash ≤ 0°4'**			On request

Dimensions in mm

Output shaft stainless steel

Stock

PX
PDX

For P and PF gearboxes

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

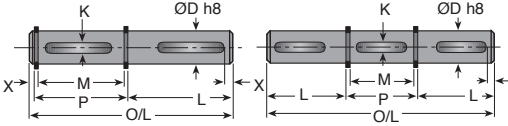


Composition

- *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*

Accessories

- *Gearbox* ***P*** ***(tome 2 p.150 to 167)***

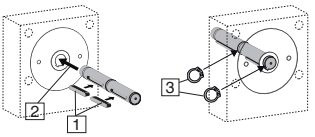


Single sided shaft P-X **Double sided shaft P-DX**





Typical applications



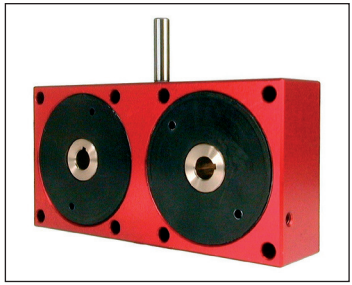
DISCOUNTS

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

Part number	For gearbox	ØD	O/L	M	P	X	L	K	Stock*	Price each
Single sided										
P20-X	P20-PF20	6	50,80	22	23,60	3,00	25	K2 x 22	✔	51,72 €
P30-X	P30-PF30	8	63,90	28	29,80	3,00	32	K2 x 22	✔	60,79 €
P40-X	P40-PF40	10	76,60	32	34,20	3,50	40	K3 x 20	✔	68,33 €
P45-X	P45-PF45	12	88,10	38	40,20	4,00	45	K4 x 25	-	73,40 €
P55-X	P55-PF55	15	101,10	46	48,20	4,00	50	K5 x 30	-	81,29 €
P60-X	P60-PF60	20	119,80	54	56,60	4,50	60	K6 x 32	-	95,57 €
P70-X	P70-PF70	25	135,80	60	62,60	4,50	70	K8 x 40	-	109,82 €
Double sided										
P20-DX	P20-PF20	6	73,60	22	23,60	1,50	25	K2 x 22	-	68,12 €
P30-DX	P30-PF30	8	93,80	28	29,80	5,45	32	K2 x 22	-	74,05 €
P40-DX	P40-PF40	10	114,20	32	34,20	9,90	40	K3 x 20	-	84,79 €
P45-DX	P45-PF45	12	130,20	38	40,20	4,00	45	K4 x 25	-	92,66 €
P55-DX	P55-PF55	15	148,20	46	48,20	9,90	50	K5 x 30	-	100,96 €
P60-DX	P60-PF60	20	176,60	54	56,60	4,50	60	K6 x 32	-	117,40 €
P70-DX	P70-PF70	25	202,50	60	62,60	4,50	70	K8 x 40	-	133,83 €

**Depending on availability - Dimensions in mm*

Standard gearboxes



We can easily adapt our standard gearboxes to meet your specific requirements.

On request and with no minimum order, we can manufacture :

- *different shaft lengths and diameters*
- *other bore diameters (metric or imperial)*
- *flat plates, keyways, circlip grooves...*
- *addition of channelled or threaded rings*
- *custom-made parts from a drawing, specification or sample.*

To find out more, contact our technical team.

Custom made gearboxes built to order

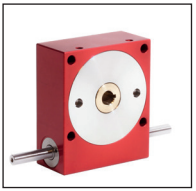
- *Please send your request for a custom made gearbox to our technical department :* ***cial2@hpceurope.com***

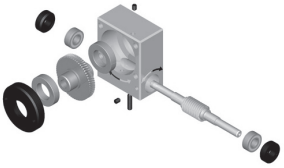
Worm and wheel gearboxes

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): ≤ 0°30' (P), ≤ 0°08' (P-A), ≤ 0°04'(P-AR)
- Lubrication: greased for life (Shell Gadus S5 V42P 2.5 grease)
- Guarantee: 13 months
- Lubrication temperature : max operating 60°C
- Cooling may be needed dependent on application

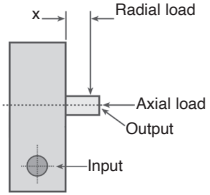




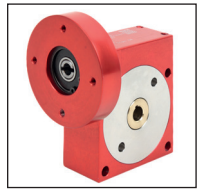
Standard P
P-A and P-AR range

ADMISSIBLE LOADS

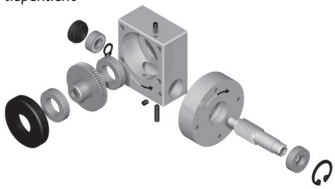
Part number	Distance 'X' (mm)	Input radial load (N)	Output Radial load (N)	Output Axial load (N)
P15	10	10	80	30
P20	10	20	120	50
P30	12	30	200	120
P40	15	50	300	200
P45	20	60	450	300
P55	20	140	600	400
P60	25	160	700	500
P70	30	200	800	600



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



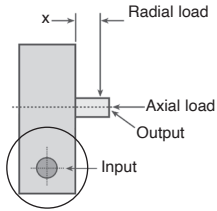
- ***Ratios: From 5:1 to 120:1***
- *Materials :*
  Housing - anodised aluminium
  Worm - Steel
  Wheel - Aluminium bronze
  Stainless steel cap
- *Max input speed: 3,000 rpm*
- *Backlash(output): ≤ 0°30' (PF), ≤ 0°08' (PF-A), ≤ 0°04'(PF-AR)*
- *Lubrication: greased for life (Shell Gadus S5 V42P 2.5)*
- *Guarantee: 13 months*
- *Lubrication temperature : max operating 60°C*
- *Cooling may be needed dependent on application*



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.

Double reduction worm gearboxes

PP35

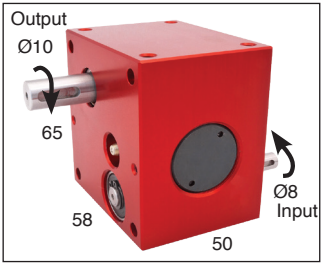
Torque up to 4.10Nm

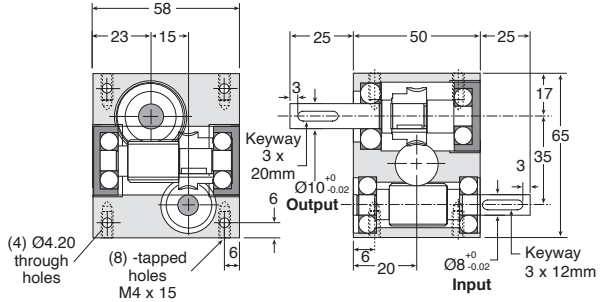
- ***Ratios from 25:1 to 900:1***
- *2-stage reduction*
- *Output backlash ≤ 55' (0,92°)*
- *Max. input speed: 3000 rpm*
- *Materials:*
  Casing: anodised aluminium
  input: non-hardened steel
  output: bronze
- *Weight: 0.70 kg*

Very high reduction ratios

Options

- *Can be modified to your specifications*





OUTPUT TORQUE (Nm values given as a guide only)

Ratios		100:1	200:1	400:1
INPUT SPEED (rpm)	3000	2,20	2,30	2,50
	2000	2,50	2,70	2,80
	1000	2,80	3,00	3,10
	500	3,10	3,50	3,60
	200	3,80	3,90	4,00
	100	3,90	4,00	4,00
	50	4,00	4,10	4,10

DISCOUNTS

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

Part number	Ratio	Max. input speed (rpm)	Max. output speed (rpm)	Efficiency at 1000 rpm	Static self-locking output	Price each
PP35-100	100:1	3000	30,00	52%	NO	929,52 €
PP35-200	200:1	3000	15,00	45%	NO	929,52 €
PP35-400	400:1	3000	7,50	34%	YES	929,52 €
PP35-SP	25:1 - 900:1	**Special ratios from 25:1 to 900:1**				On request

Dimensions in mm

Double reduction worm gearboxes

Torque up to 12.8Nm

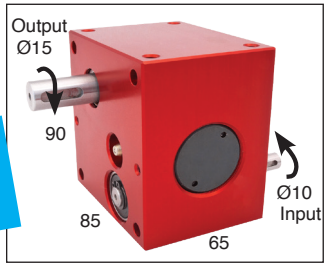
PP50

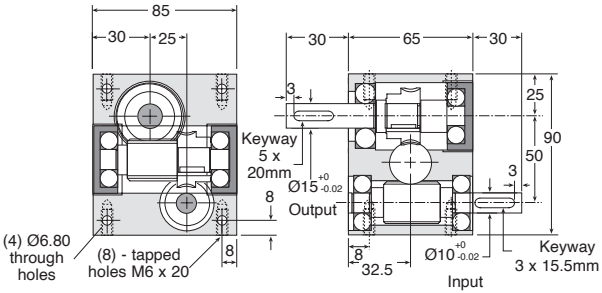
- ***Ratios from 25:1 to 900:1***
- *2-stage reduction*
- *Output backlash ≤ 55' (0,92°)*
- *Max. input speed: 3000 rpm*
- *Materials:*
  casing: anodised aluminium
  input: non-hardened steel
  output: bronze
- *Weight: 1.80 kg*

Very high reduction ratios

Options

- *Can be modified to your specifications*





OUTPUT TORQUE (Nm values given as a guide only)

Ratios		100:1	200:1	400:1
INPUT SPEED (rpm)	3000	6,50	7,10	8,20
	2000	7,20	7,80	8,90
	1000	8,20	9,00	9,80
	500	9,50	10,20	11,50
	200	11,00	11,60	12,20
	100	12,00	12,30	12,60
	50	12,70	12,80	12,80

DISCOUNTS

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

Part number	Ratio	Max. input speed (rpm)	Max. output speed (rpm)	Efficiency at 1000 rpm	Static self-locking output	Price each
PP50-100	100:1	3000	30,00	54%	NO	966,48 €
PP50-200	200:1	3000	15,00	48%	NO	966,48 €
PP50-400	400:1	3000	7,50	36%	YES	966,48 €
PP50-SP	25:1 - 900:1	**Special ratios from 25:1 to 900:1**				On request

Dimensions in mm

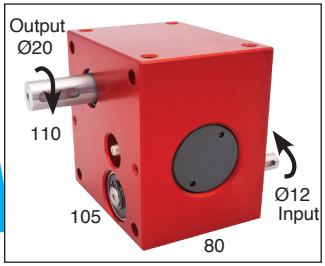
Double reduction worm gearboxes

PP60

Torque up to 34Nm

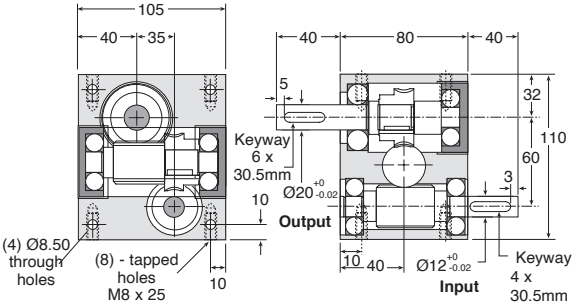
- ***Ratios from 25:1 to 900:1***
- *2-stage reduction*
- *Output backlash ≤ 55' (0,92°)*
- *Max. input speed: 3000 rpm*
- *Materials:*
  Casing: anodised aluminium
  input: non-hardened steel
  output: bronze
- *Weight: 3.30 kg*

Very high reduction ratios



Options

- *Can be modified to your specifications*



OUTPUT TORQUE (Nm values given as a guide only)

Ratios		100:1	200:1	400:1
INPUT SPEED (rpm)	3000	17,80	19,40	22,50
	2000	20,00	21,60	24,80
	1000	22,50	25,00	26,80
	500	26,10	28,00	31,60
	200	30,50	32,00	34,00
	100	33,00	34,00	34,00
	50	34,00	34,00	34,00

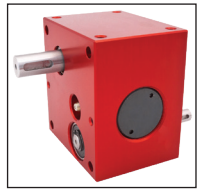
DISCOUNTS

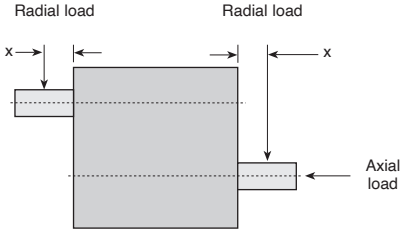
Qty	1+	2+	4+
Disc.	List	-5%	On request

Part number	Ratio	Max. input speed (rpm)	Max. output speed (rpm)	Efficiency at 1000 rpm	Static self-locking output	Price each
PP60-100	100:1	3000	30,00	55%	NO	1 221,25 €
PP60-200	200:1	3000	15,00	50%	NO	1 221,25 €
PP60-400	400:1	3000	7,50	37%	YES	1 221,25 €
PP60-SP	25:1 - 900:1	**Special ratios from 25:1 to 900:1**				On request

Dimensions in mm

- ***Speed ratio: from 25:1 to 900:1***
- *Materials :*
  casing anodised aluminium
  worm steel
  wheel aluminium bronze
- *Max. speed: 3000 rpm on input depending on model*
- *Backlash: ≤ 55' (0,92°) on output*
- *Lubrification: greased for life*
  (Shell Gadus S5 V42P 2,5 grease)
- *Guarantee: 13 months*
- *Lubrication temperature :*
  max operating 60°C
- *Cooling may be needed dependent on application*





ADMISSIBLE LOADS

Part number	Distance 'X' (mm)	Input Radial load (N)	Output Radial load (N)	Axial load (N)
PP35	12	60	120	100
PP50	20	100	300	200
PP60	25	150	450	300

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