

SKF Belts

SKF belt range nomenclature has a defined prefix of PHG. All belts we produce conform to conventional basic part number format – ISO, BS, RMA or DIN.

V Belts

The V belt designation format is constant through the range, with the following example to indicate set up.

SKF Designation prefix

PHG

SPB

1800

XP

Belt type

Wedge – SPZ, SPA, SPB, SPC
Wedge CRE – XPZ, XPA, XPB XPC
Classical – Z, A, B, C, D, E
Classical CRE – ZX, AX, BX, CX
Narrow wedge – 3V, 5V, 8V
Narrow wedge CRE – 3VX, 5VX, 8VX
Double classical – AA, BB, CC
Ribbed – PJ, PK, PL, PM

Belt lengths

Wedge all – pitch length (mm)
Narrow wedge all – outside length (¹/₁₀₀ inch)
Classical all – inside length (inch)
Ribbed – pitch length (mm)

Supplementary

Wedge & Narrow wedge – XP Xtra Power
Wedge, Narrow wedge, Classical banded belts – X??. for number of joined belts in each band

Note

Ribbed belts will list number of ribs before the Belt type

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Timing Belts

The Timing belt designation format is constant through the range, with the following example to indicate set up.

SKF Designation prefix

PHG D -198 - XL - 025

Belt lengths
Supplementary – D, DA, DB – double siding of belt

Belt lengths
Classical – pitch length (¹/₁₀ inch)
HiTD – pitch length (mm)
STS – pitch length (mm)
Metric – pitch length (mm)

Belt type
Classical – MXL, XL, L, H, XH, XXH
HiTD – 2M, 3M, 5M, 8M, 14M
STS – S2M, S3M, S4.5M, S5M, S8M, S14M
Metric polyurethane – T2.5, T5, T10, T20, AT2.5, AT5, AT10

Belt width
Classical – ¹/₁₀₀ of inch
HiTD – millimeters (mm)
STS – millimeters (mm)
Metric – millimeters (mm)

Note
Options available for long length open ended rolls – refer to SKF

Belts (PHG Product Group)

SKF belts are manufactured to a “worldwide” specification, PTP-0299 (Feb 2000), which is compatible with all commonly used standards:

- wrapped and cogged belts are manufactured according to GB 1171 and BS 3790
- timing belts are in accordance with quality standards GB/T13487-1992 and GB/T11616-1989
- length and tolerance control of MXL, XL, L, H, XH, XXH profiles are done in accordance with ISO 5296-1
- measurement tolerance testing is done in accordance with ISO 4184
- SKF belts are manufactured to be anti-static and as such comply with ATEX directive requirements (static conductivity testing is done in accordance with ISO 1813)
- equipment testing is done in accordance with ISO 255-1990

Rubber belts can be stored in “optimum” conditions for up to 10 years, however in real world practice we suggest storing no more than 7 years to ensure expected working life is not affected.

Main materials used in timing belts

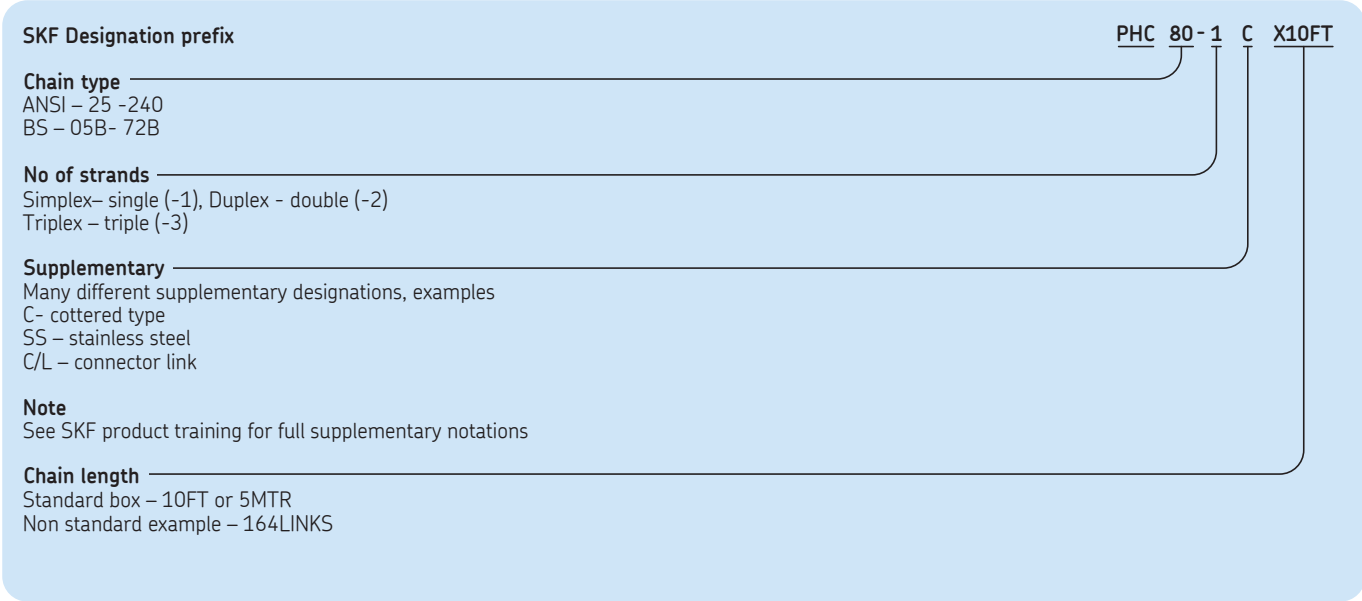
	Classical (MXL, L, H, XH, XXH)	HiTD (3M, 5M, 8M, 14M)	Polyurethane metric (T2.5, T5, T10, AT2.5, AT5, AT10) Truly Endless	Polyurethane metric (T2.5, T5, T10, AT2.5, AT5, AT10) Open Ended
Tensile member (cord)	Fiberglass	Fiberglass	Steel cord / Aramid cord	Steel cord / Aramid cord
Tooth compound	CR	CR	Polyurethane	Polyurethane
Tooth facing fabric	Nylon	Nylon	no fabric	Nylon available
Backing fabric	CR	CR	no fabric	Nylon available

SKF Chains

SKF chain range nomenclature has a defined prefix of PHC. All standardized chains we produce conform to conventional basic part number format – ISO, BS, or DIN.

Roller Chains

The Roller chains designation format is constant through the range, with the following example to indicate set up.



SKF Chains

SKF chain range nomenclature has a defined prefix of PHC. All standardized chains we produce conform to conventional basic part number format – ISO, BS, or DIN.

Special chains – Leaf, Conveyor

The special and conveyor chains designation format is constant through the range, but there are very many combinations of materials, attachments and special considerations, the following is an example to indicate set up.

SKF Designation prefix

Chain type

Leaf – BL, AL, FL, LL
Conveyor – C, M, FV, Z – variations based on hollow shafts, rollers and side plates heights
*note more chain types available. Check catalogue

Supplementary

Many different supplementary designations, examples
C – cottered type
SS – stainless steel
C/L – connector link

Note

See SKF product training for full supplementary notations

Chain length

Standard length – 10FT or 5MTR
Non standard example – 164LINKS

PHC C2080H - L1A2 X10FT

Chains (PHC Product Group)

SKF chains completely conform to international standards (ISO) and other advanced industrial standards (i.e. ANSI and DIN) as shown below:

- Short pitch transmission precision roller chains are manufactured according to ISO 606- 1994, ASME B29.1M-1993 and DIN 8187/DIN 8188
- Double pitch precision roller chains for transmission and conveyors are manufactured according to ISO 1275-1995, ASME B29.3M-1994/AMSE B29.4M-1994 and DIN 8181-2000
- Short pitch transmission precision bush chains are manufactured according to ISO 1395-1997, ASME B29.12M-1997 and DIN 8154/DIN 8164
- Steel roller chains/attachments (types S and C) are manufactured according to ISO 487-1998, ASME B29.19M-1996 and DIN 8169-1997
- Conveyor chains/attachments are manufactured according to ISO 1977-2000, ASME B29.15M-1997 and DIN 8165/DIN 8166/DIN 8167
- Heavy duty cranked link transmission chains are manufactured according to ISO 3512, ASME B29.10M-1997 and DIN 8182

- Leaf chains are manufactured according to ISO 4347-1992, ASME B29.8M-1983 and DIN 8152
- Welded steel type cranked link drag chains are manufactured according to ISO 6971-2002 and ASME B29.200-2001
- Welded steel type cranked link mill chains are manufactured according to ISO 6972-2002 and ASME B29.200-2001
- Silent chains are manufactured according to ASME B29.2M-1982 and DIN 8190
- Open barrel steel pintle type conveyor chains/attachments are manufactured according to ASME B29.25M-1994
- Oil field chains are manufactured according to API SPEC 7F-1993
- Hollow pin chains are manufactured according to ASME B29.27M-2001 and DIN 8168

Depending and the type and style, SKF conveyor chains comply with international standards such as DIN 8187, ISO 1977 and BS 4116 (Part IV).
Other cast and steel chains comply with the relevant industry accepted standards for performance and dimensions.

Main materials used in the chain construction

Side Plate

Roller

Bush

Pin

45Mn, 40Cr, 35CrMo, Premium carbon steel no. 45

Premium carbon steel no. 10, Premium carbon steel no. 45

20Mn Premium carbon steel no. 20

35CrMo, GCr15, 30CrMnTi, 40Cr, 20CrMnMo

SKF Couplings

SKF coupling range nomenclature has a defined prefix of PHE. The coupling range is covered by limited standards, AGMA is the main standard to cover interchangeability for couplings, and spacers are covered by ANSI or ISO for lengths.

Couplings

The coupling range designation from SKF has the following is an example to indicate set up.

SKF Designation prefix

Coupling size and type
Example:
F90 - Flex coupling size 90
1070TG - taper grid coupling size 1070

Supplementary
Many different supplementary designations, examples
HTB- taper bushing type H
NR - insert type Nitrile
HCOVER - cover type H, horizontal

Note
See SKF product training for full supplementary notations

Supplementary
Many different supplementary designations, example
FLG - flange hub only for Flex coupling

PHE

F90

HTB

FLG

Couplings (PHE Product Group)

SKF Flex-, Chain-, FRC-, Jaw couplings and Universal joints are manufactured according to established market standards and are fully interchangeable with other brands:

- Metric bore keyway machined according to BS 4231:Part 1 and DIN 6885;
- British imperial bore keyway machined according to BS 46:Part 1; and
- American imperial bore keyway machined according to ASME B17.1.

SKF Grid, Gear and Rigid couplings are manufactured according to established industrial standard, which is acceptable throughout the world. SKF Gear couplings are interchangeable, half to half, to industries standard using AGMA bolt pattern.

Every coupling is protected by a specific treatment, which depends on the material or type of packaging: (1) phosphate coating, (2) blackening, (3) spray painting or (4) anti-corrosion oil.

Main materials used in couplings

SKF Flex coupling

Chain coupling

FRC coupling

Jaw coupling

Gear coupling

Gear coupling

Rigid coupling

Universal Joint

Flange in grey cast iron HT250; tyre available in nitrile or chloroprene (FRAS); rubber and spacer in grey cast Iron HT250.

Flange in premium carbon steel no. 45 and cover available in aluminium and plastic.

Flange in grey cast iron HT250 and elements available in nitrile or chloroprene (FRAS) rubber.

Flange in grey cast iron HT250; spacer in aluminium and insert available in nitrile, urethane and Hytrel®.

Hub in steel SM45C equivalent to AISI 1045; grid member ain spring steel SW-C; horizontal split cover in aluminium.

Sleeve and hub in steel SM45C equivalent to AISI 1045.

All components manufactured in grey cast iron HT250.

Premium carbon steel.

Grid couplings

In high output (kW) and high torque applications where vibration, shock loads and misalignment occur, SKF grid couplings are an excellent choice. The unique design of the grid and hub teeth enable these couplings to accommodate movement and stresses from all three planes, thereby reducing vibration levels by as much as 30%.

The tapered grid element is manufactured from a high strength alloy steel. The grid, which is the primary wear component of the coupling, is designed for quick and easy replacement. Unlike other couplings, the hubs and other components are not disturbed. This makes realignment unnecessary and further reduces downtime and maintenance costs.

Order data									
Coupling type	Hubs		Cover		Grid		Spacer hub set		
–	Solid bore	Qty	Bored to size	Qty	–	Qty	–	Qty	(... = DBSE dimension) Qty
Horizontal split cover	PHE 1050TGRSB	2	or	PHE 1050TG...MM	2	PHE 1050TGHCOVER	1	PHE 1050TGGRID	1
Vertical split cover	PHE 1050TGRSB	2	or	PHE 1050TG...MM	2	PHE 1050TGVCOVER	1	PHE 1050TGGRID	1
Full spacer	PHE 1050TGS-SHRSB	2	or	PHE 1050TGS-SH...MM	2	PHE 1050TGHCOVER	1	PHE 1050TGGRID	1
Half spacer	PHE 1050TGRSB	1	or	PHE 1050TGS-SH...MM	1	PHE 1050TGHCOVER	1	PHE 1050TGHS-SPACERX...MM	1
	PHE 1050TGS-SHRSB	1				–	–	–	–

Each complete full or half spacer coupling consists of: 2 hubs, 1 grid, 1 cover and 1 spacer hub set. Each complete horizontal or vertical split cover coupling consists of: 2 hubs, 1 grid and 1 cover. For bored to size designations, add bore size. For example, PHE 1050TG25MM

SKF Bushings

SKF bushing range nomenclature has a defined prefix of PHF. The bushing range is covered by limited standards, but main SKF range is interchangeable with other brands.

Bushings

The bushing range designation from SKF has the following is an example to indicate set up.

SKF Designation prefix

PHFTB2517X55MM

Bushing size and type

Example:
TB2517 – taper bushing size 2517
M – QD series M
FX10 – FX friction bush series 10

Supplementary

Bore sizes and dimensions
QD & taper bushing
X55MM – 55mm bore diameter standard keyway
-2-³/₄ – inch shaft 2-³/₄ with standard keyway
50X80 – FX bushing bore and OD dimensions

Note

See SKF product training for full supplementary notations

Bushings and Hubs (PHF Product Group)

SKF Taper bushings, QD bushings, Weld-on and Bolt-on hubs are manufactured according to established market standards and are fully interchangeable with other brands.

Metric bore keyway machined according to BS 4235: Part 1 and DIN 6885.

Imperial bore keyway machined according to BS 46: Part 1.

Phosphate coating and blackening are used to improved corrosion resistance, excluding FX bushings.

Main materials used in bushings and hubs

Taper bushing

Grey cast iron HT250

QD bushing

Grey cast iron HT250

Weld on and Bolt on hubs

Grey cast iron HT250

FX Bushings

C45 Steel

SKF Sprockets

SKF sprocket range nomenclature has a defined prefix of PHS. All sprockets are made to be applied to standardized chains. SKF sprockets conform to conventional basic chain part number format – ISO, BS, or DIN.

Sprockets

The sprocket range designation from SKF has the following is an example to indicate set up.

SKF Designation prefix

Chain size and type —————

Example:
80-1 – ANSI series chain, simplex type
16B-3 – ISO/BS series chain, triplex type

Supplementary —————

Many different supplementary designations, examples
TBH- taper bushing type and hardened teeth
C – Hub type C
SS – stainless steel material

Note
See SKF product training for full supplementary notations

Teeth —————

The number of teeth on the sprocket

Supplementary
Possible other options and special requirements

PHS **80-1** **TBH** **22**

Sprockets (PHS Product Group)

All SKF sprockets are manufactured according to ISO606 & ASME B29.100 standard. The sprockets are made from steel material C-45 and premium carbon steel no. 20 on hub material if welded. For some special sprockets gray cast iron HT250 or cast iron 250 material is used.

Sprockets 25T and below are hardened as standard (typically 35-40 HRC). This is only valid for sprocket teeths manufactured with steel material C-45. Surface treatment such as black oxide and zinc plating can be offered upon request.

Tolerances are machined according to DIN 8196.

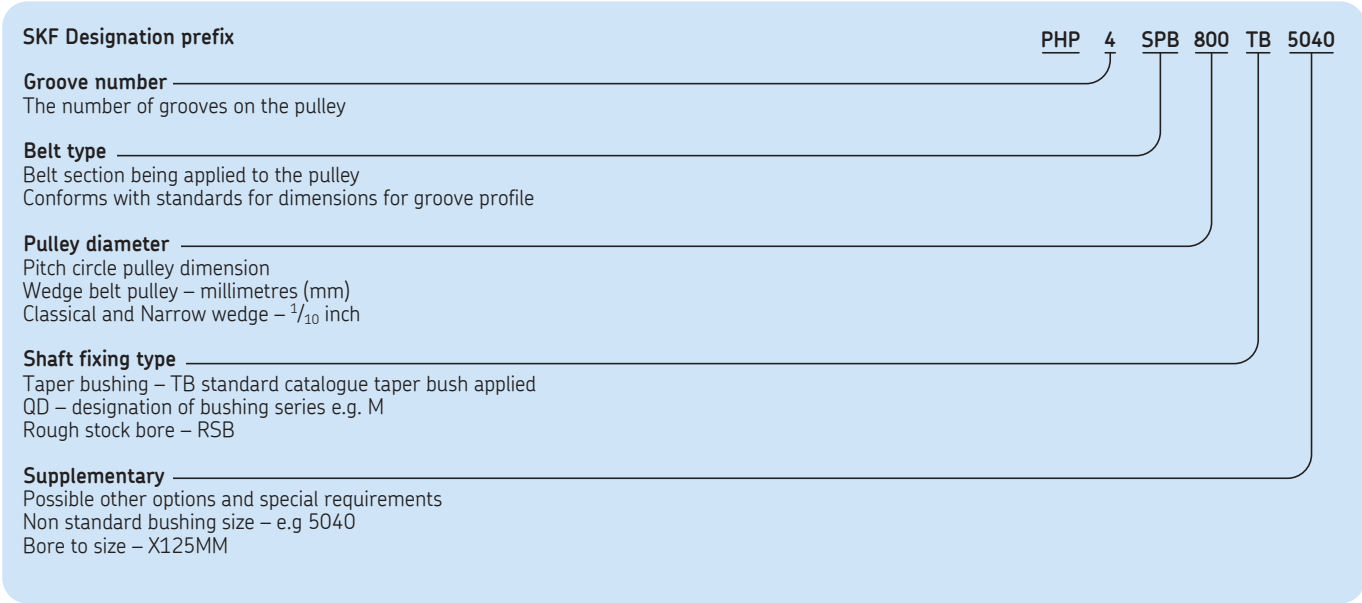
All sprockets are completely deburred and protected with rustproof oil.

SKF Pulleys

SKF pulley range nomenclature has a defined prefix of PHP. All pulleys are made to be applied to standardized belts. SKF pulleys conform to conventional basic belt part number format – ISO, BS, or DIN.

Pulleys – V-belts

The pulley range designation from SKF has the following is an example to indicate set up.



Pulleys (PHP Product Group)

Classical and trapezoidal inch pitch timing pulleys (MXL, XL, L, H, XH, XXH) are manufactured according to ISO 5294.

Metric pitch series timing pulleys (T/AT) are manufactured according to DIN 7721.

All SKF V-belt pulleys are manufactured to the standards ISO 4183, DIN 2211, ANSI Narrow V-belt pulley IP-22 and the ANSI Classical V-belt pulley IP-20. They are interchangeable with type SPA, SPB, SPC and SPZ. The pulleys are made from cast iron G3000 (GG) to American standard “SAEJ431AVG96”.

Following are the requirements of G3000:

- Tensile strength = 207Mpa
- Hardness = HB 187-241
- Chemical composition C 3,1-3,4 %, Si 1,9-2,3 %, Mn 0,6-0,9 %, S = 0,15 %, P = 0,15%

After being machined, pulleys are phosphated and treated with a rustproof oil.

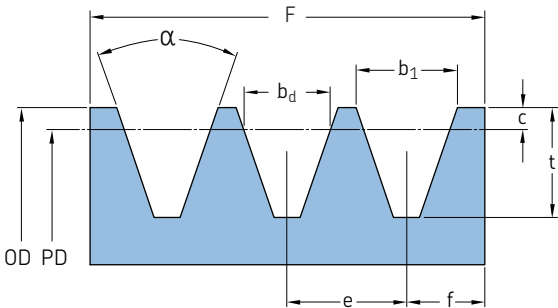
All pulleys are statically balanced to G6.3 according to ISO 1940. After balanced the pulleys are suitable for the linear speed of not more than 35 m/s. Two Plane (Dynamic) balancing can be provided on request. SKF can issue a certificate stating that all pulleys are dynamically balanced in case of any special customer request.

Standard pulley groove dimensions DIN2211/1 and BS3970

Classical V-belt pulleys | Narrow Wedge V-belt pulleys (DIN / BS / ISO) | Narrow wedge belt pulleys (RMA)

Nomenclature:

- α Pulley groove included angle (°)
- OD Outside diameter
- PD Effective (pitch) diameter
- b_d Effective width at pitch line
- b₁ Groove top width
- c Distance from pitch to outside diameter (= OD - PD/2)
- e Transverse pitch of grooves (to centers)
- f Minimum recommended distance from edge of pulley to center of first groove
- t Total groove depth



Classical V-belt pulleys

Classical belt series	Pitch diameter range	Groove angle	Dimensions				
		α	b ₁	b _d	t	c	e
–	mm	°	mm				
13/A-17/B	85 - 170	34	15,55	15,88	19,05	4,45	12,70
	Over 170	38		15,88	19,05	4,45	12,70
22/C	178 - 203	34	22,33	19,81	25,40	5,08	17,48
	203 - 305	36	22,53	19,81	25,40	5,08	17,48
	Over 305	38	22,73	19,81	25,40	5,08	17,48
32/D	305 - 330	34	31,98	26,67	36,53	7,62	22,23
	330 - 432	36	32,28	26,67	36,53	7,62	22,23
	Over 432	38	32,59	26,67	36,53	7,62	22,23
40/E	457 - 610	36	38,79	33,02	44,45	10,16	31,24
	Over 610	38	39,17	33,02	44,45	10,16	31,24

Narrow Wedge V-belt pulleys (DIN / BS / ISO)

Classical belt series	Pitch diameter range	Groove angle	Dimensions					
		α	b ₁	b _d	t(+0.6/-0.0)	c	e	f
–	mm	°	mm					
SPZ	Up to & incl. 80	34	9,7	8,5	11,00	2,00	12,0 ± 0,3	8,0
	Over 80	38	9,7	8,5	11,00	2,00	12,0 ± 0,3	8,0
SPA	Up to & incl. 118	34	12,7	11,0	14,00	2,80	15,0 ± 0,3	10,0
	Over 118	38	12,7	11,0	14,00	2,80	15,0 ± 0,3	10,0
SPB	Up to & incl. 190	34	16,2	14,4	18,00	3,50	19,0 ± 0,4	12,5
	Over 190	38	16,2	14,4	18,00	3,50	19,0 ± 0,4	12,5
SPC	Up to & incl. 315	34	22,0	19,0	24,00	4,80	25,5 ± 0,5	17,0
	Over 315	38	22,0	19,0	24,00	4,80	25,5 ± 0,5	17,0

Narrow wedge belt pulleys (RMA)

RMA Belt series	Pitch diameter range	Groove angle	Dimensions					
		α	b ₁	b _d	t	c	e	f
–	mm	°	mm					
3V, 3VX	Up to & incl. 90	36	8,89	8,89	8,64	0,64	10,3 ± 0,4	8,74
	Over 90 - 150	38	8,89	8,89	8,64	0,64	10,3 ± 0,4	8,74
	Over 150 - 305	40	8,89	8,89	8,64	0,64	10,3 ± 0,4	8,74
	Over 305	42	8,89	8,89	8,64	0,64	10,3 ± 0,4	8,74
5V, 5VX	Over 140 - 255	38	15,24	12,70	14,98	1,27	17,5 ± 0,4	3,20
	Over 255 - 405	40	15,24	12,70	14,98	1,27	17,5 ± 0,4	3,20
	Over 405	42	15,24	12,70	14,98	1,27	17,5 ± 0,4	3,20
8V, 8VX	Over 315 - 405	38	25,40	25,40	25,15	2,54	28,6 ± 0,4	6,40
	Over 405 - 570	40	25,40	25,40	25,15	2,54	28,6 ± 0,4	6,40
	Over 570	42	25,40	25,40	25,15	2,54	28,6 ± 0,4	6,40