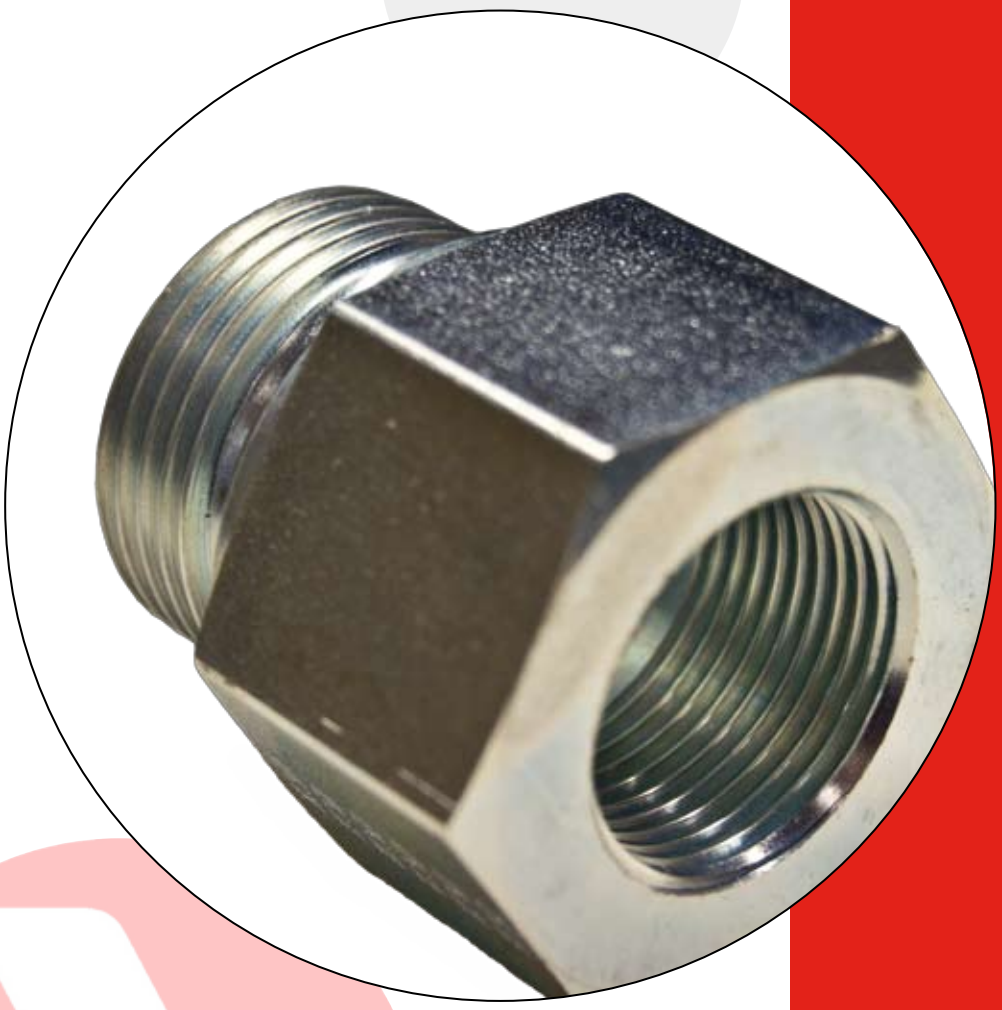
Guide till tryck och gängor
Guide - pressure and threads



ASSALUB

Guide till tryck och gängor

Tryckmätning

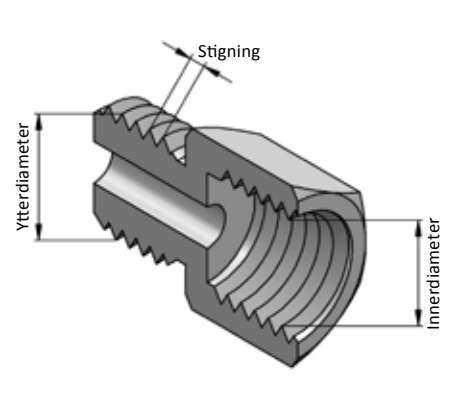
Översikt över förekommande enheter inom tryckmätning

MPa Mega Pascal (1 Pa = 1 N/m²)
bar Bar
psi pounds / square inch (1 pound = 4,45 N per kvadrattum)
mVp meter vattenpelare
mmHg millimeter kvicksilverpelare
atm atmosfär
kP/cm² kiloPond / kvadratcentimeter (kallas ibland felaktigt för kilo)

Samband mellan enheter
1 MPa = 10 bar = 145 psi = 101,97 mVp = 7500 mmHg = 9,87 atm = 10,2 kP/cm²

Rörgängor

Världen har idag flera olika system för rörgängor:



BSP (British Standard Pipe):
Används främst i Europa.
Rak rörgänga anges ISO-G följt av dimension.
Konisk rörgänga anges ISO-R följt av dimension.
Profilvinkel: 55° Whitworth

NPT(F) (National Pipe Tapered (Fuel and oil))
Används främst i Nordamerika.
Gängor av typ NPT är koniska.
Deras raka motsvarighet kallas NPS (National Pipe Straight)
Profilvinkel: 60°

Metriska gängor
Konisk motsvarighet benämns gängtyp följt av kon.
Profilvinkel: 60°

I tabellerna nedan anges måtten för de raka gängorna. De koniska gängornas diametrar skiljer sig beroende var på gängan man mäter.

BSP-gängor

Benämning	1/8”	1/4”	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”	2”	2.1/2”	3”
DN	06	08	10	15	20	25	32	40	50	65	80
Stigning (mm)	0.907	1.337	1.337	1.814	1.814	2.309	2.309	2.309	2.309	2.309	2.309
Ytterdia. (mm)	9.73	13.16	16.66	20.95	26.44	33.25	41.91	47.80	59.61	75.18	87.88
Innerdiam (mm)	8.57	11.45	14.95	18.63	24.12	30.29	38.95	44.85	56.66	72.23	84.93

NPS-gängor

Benämning	1/8”	1/4”	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”	2”	2.1/2”	3”
Stigning (mm)	0.941	1.411	1.411	1.814	1.814	2.209	2.209	2.209	2.209	3.175	3.175
Ytterdia. (mm)	10.287	13.716	17.145	21.336	26.670	33.401	42.164	48.260	60.325	73.025	88.900
Innerdiam (mm)	8.650	11.232	14.671	18.120	23.465	29.467	38.230	44.326	56.391	67.526	83.401

Metriska gängor

Benämning	M10	M12	M14	M16	M18	M22	M26	M27	M33	M42	M48	M60	M75
Stigning (mm)	1	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2
Ytterdia. (mm)	10	12	14	16	18	22	26	27	33	42	48	60	75
Innerdiam (mm)	8.917	10.376	12.376	14.376	16.376	20.376	24.376	24.835	30.835	39.835	45.835	57.835	72.835

Pressure units

Overview of occuring pressure units

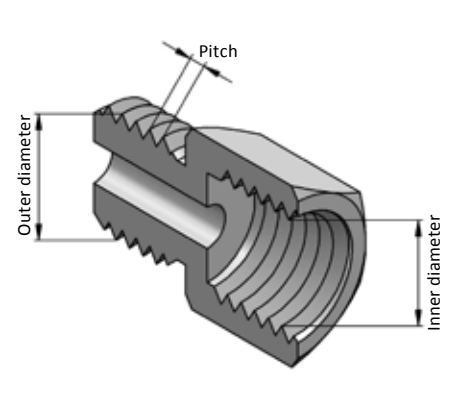
MPa	*Mega Pascal (1 Pa = 1 N/m²)*
bar	*Bar*
psi	*pounds / square inch (1 pound = 4,45 N)*
mVp	*meter column of water*
mmHg	*millimeter mercury*
atm	*atmosphere*
kP/cm²	*kiloPond / square centimeter*

Equivalence of units:
1 MPa = 10 bar = 145 psi = 101,97 mVp = 7500 mmHg = 9,87 atm = 10,2 kP/cm²

Pipe Threads

There are presently several different systems for pipe threads in the world:

BSP (British Standard Pipe):
Is mainly used in Europe.
Straight pipe thread is stated ISO-G followed by dimension.
Tapered pipe thread is stated ISO-R followed by dimension.
Thread angle: 55° (Whitworth)



NPT(F) (National Pipe Tapered (Fuel and oil))
Is mainly used in North America.
Threads of type NPT are tapered.
The corresponding straight thread is designated
NPS (National Pipe Straight)
Thread angle: 60°

Metrical pipe thread
The corresponding tapered thread is designated thread type followed by tap.
Thread angle: 60°

In the tables below, the dimensions of the straight threads are stated. The tapered thread diameters differs depending on where measured.

BSP-threads

Designation	1/8”	1/4”	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”	2”	2.1/2”	3”
DN	06	08	10	15	20	25	32	40	50	65	80
Pitch (mm)	0.907	1.337	1.337	1.814	1.814	2.309	2.309	2.309	2.309	2.309	2.309
Outer diam. (mm)	9.73	13.16	16.66	20.95	26.44	33.25	41.91	47.80	59.61	75.18	87.88
Inner diam. (mm)	8.57	11.45	14.95	18.63	24.12	30.29	38.95	44.85	56.66	72.23	84.93

NPS-threads

Designation	1/8”	1/4”	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”	2”	2.1/2”	3”
Pitch (mm)	0.941	1.411	1.411	1.814	1.814	2.209	2.209	2.209	2.209	3.175	3.175
Outerdiam. (mm)	10.287	13.716	17.145	21.336	26.670	33.401	42.164	48.260	60.325	73.025	88.900
Inner diam. (mm)	8.650	11.232	14.671	18.120	23.465	29.467	38.230	44.326	56.391	67.526	83.401

Metrical threads

Designation	M10	M12	M14	M16	M18	M22	M26	M27	M33	M42	M48	M60	M75
Pitch (mm)	1	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2
Outer dia. (mm)	10	12	14	16	18	22	26	27	33	42	48	60	75
Inner dia. (mm)	8.917	10.376	12.376	14.376	16.376	20.376	24.376	24.835	30.835	39.835	45.835	57.835	72.835