

Document Title: General dimensions	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
Profile:			

General dimensions

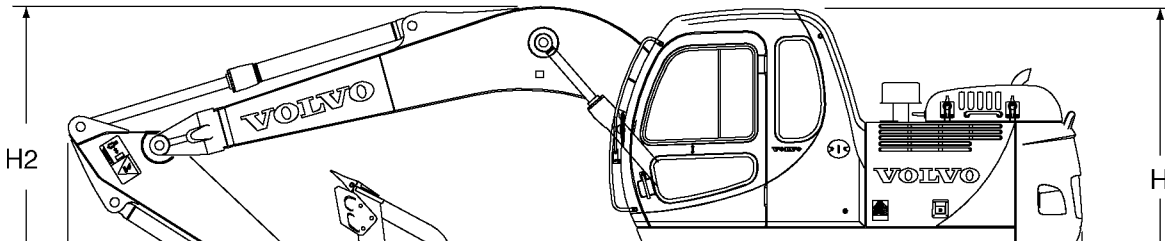
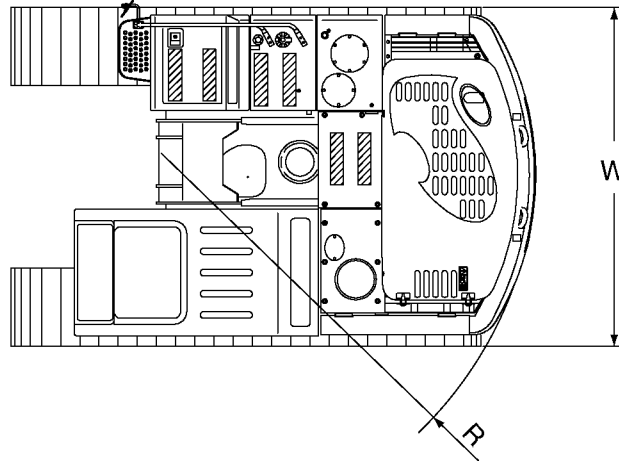


Figure 1
Dimensions of machine

Dimensions, whole machine

Item	Symbol	Unit	Standard	Option	
Front digging unit	Boom length	–	m (ft)	5.2 (17' 1")	
	Arm length	–	m (ft)	2.6 (8' 6")	2.3 (7' 7")
Overall height	Cab	H	mm (ft)	2900 (9' 6")	
	Boom	H2	mm (ft)	2900 (9' 6")	2980 (9' 9")
Ground clearance	Lower frame	H1	mm (ft)	*460 (1' 6")	
	Counterweight	H3	mm (ft)	1010 (3' 4")	
Overall length	L	mm (ft)	8640 (28' 4")	8750 (28' 8")	8680 (28' 6")
Track length on ground	L2	mm (ft)	3180 (10' 5")		
Superstructure	Overall width	W	mm (ft)	2460 (8' 1")	
	Turning radius	R	mm (ft)	2400 (7' 10")	
Undercarriage	Shoe width	L1	mm (ft)	600 (2')	
	Track gauge	L3	mm (ft)	1990 (6' 6")	
	Overall width	B	mm (ft)	2590 (8' 6")	
	Track length	L4	mm (ft)	3970 (13' 0")	

Product: Volvo EC150 Excavators Service Manual

Full Download: <https://www.arepairmanual.com/downloads/volvo-ec150-excavato>

NOTE!
[rs-service-manual/](https://www.arepairmanual.com/downloads/volvo-ec150-excavators-service-manual/)

* : Exclude shoe grouser.

Sample of manual. Download All 2604 pages at:

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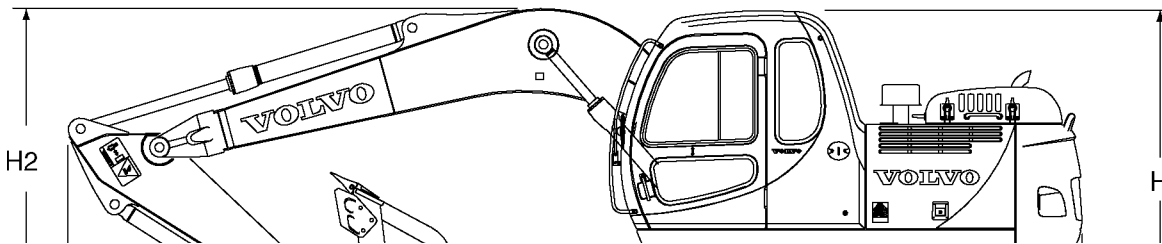
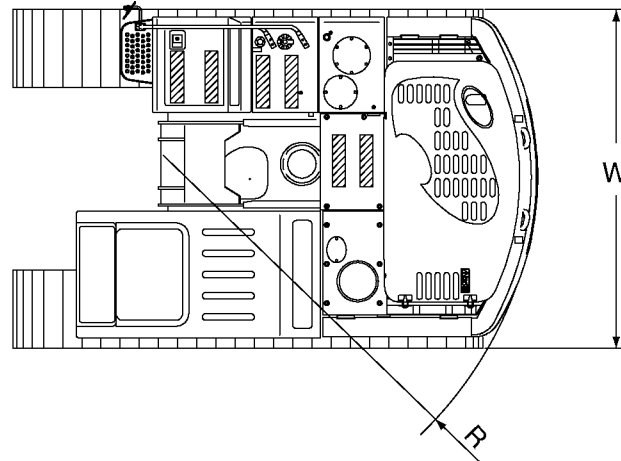


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	Track length	L4	mm (ft)	3970 (13' 0")		

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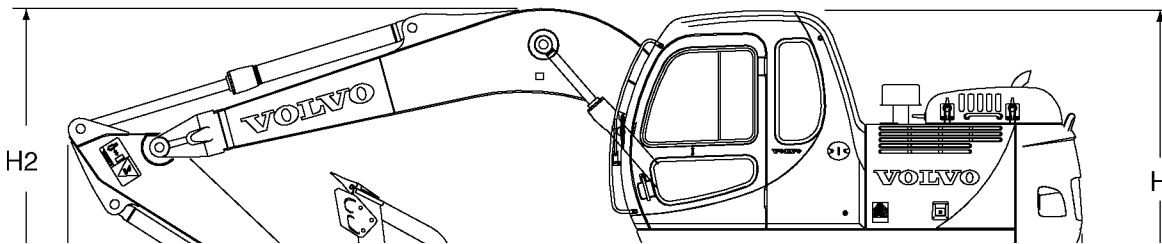
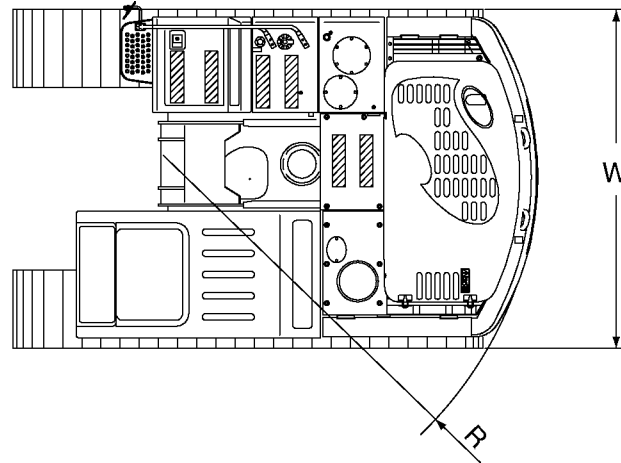


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Document Title: Location of components	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
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Location of components

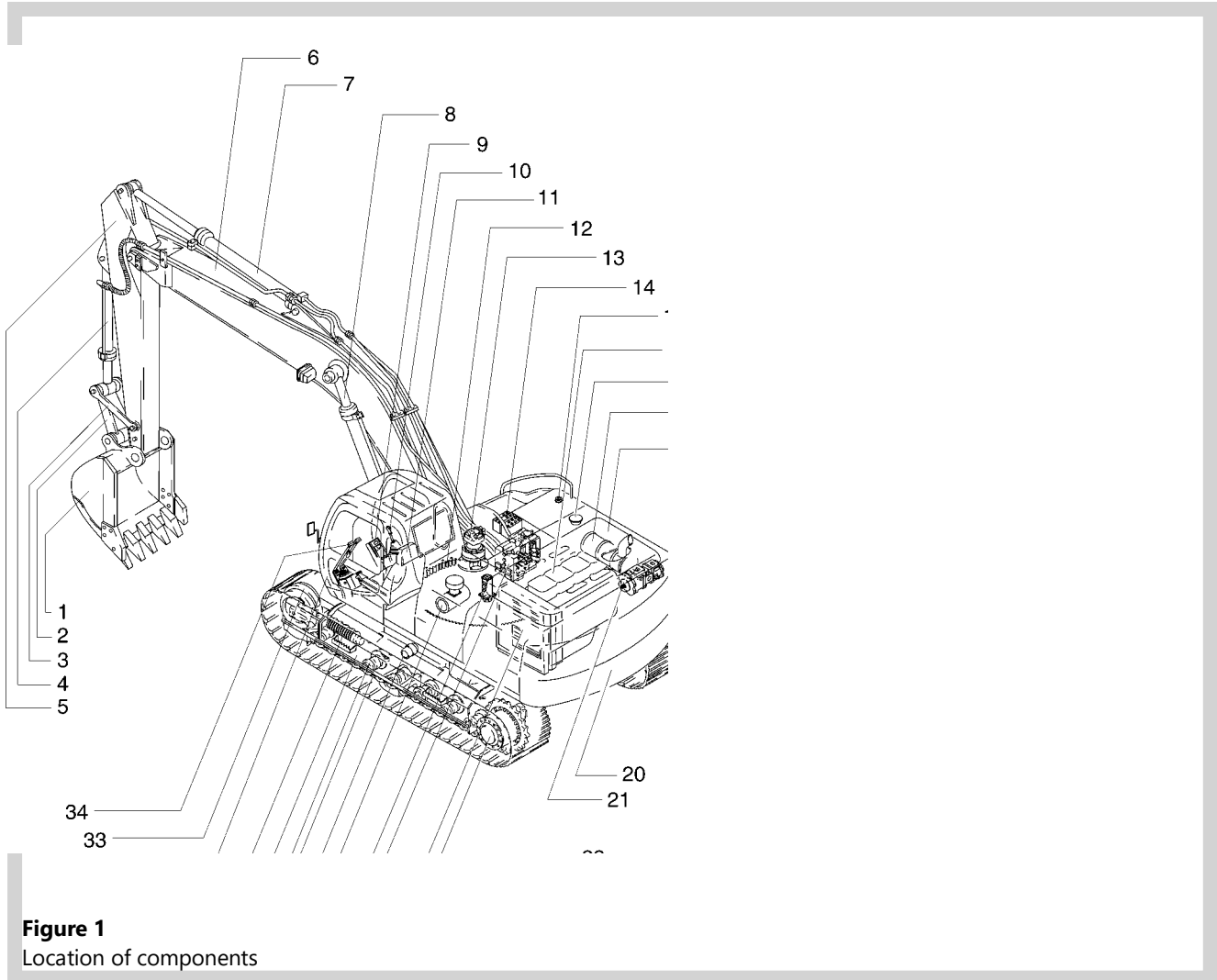


Figure 1
Location of components

1	Bucket	18	Muffler
2	Link	19	Cowl
3	Connecting rod	20	Counterweight
4	Bucket cylinder	21	Hydraulic pump
5	Arm	22	Travel motor and gearbox
6	Boom	23	Radiator and oil cooler
7	Arm cylinder	24	Main control valve
8	Boom cylinder	25	Center passage
9	I-ECU	26	Air cleaner
10	Remote control valve (lever)	27	Top roller
11	Operator seat	28	Track link
12	Slew gear	29	Bottom roller
13	Slew motor and gearbox	30	Undercarriage

14	Battery	31	Package spring
15	Fuel tank	32	Cab
16	Engine	33	Idler
17	Hydraulic tank	34	Remote control valve (travel)

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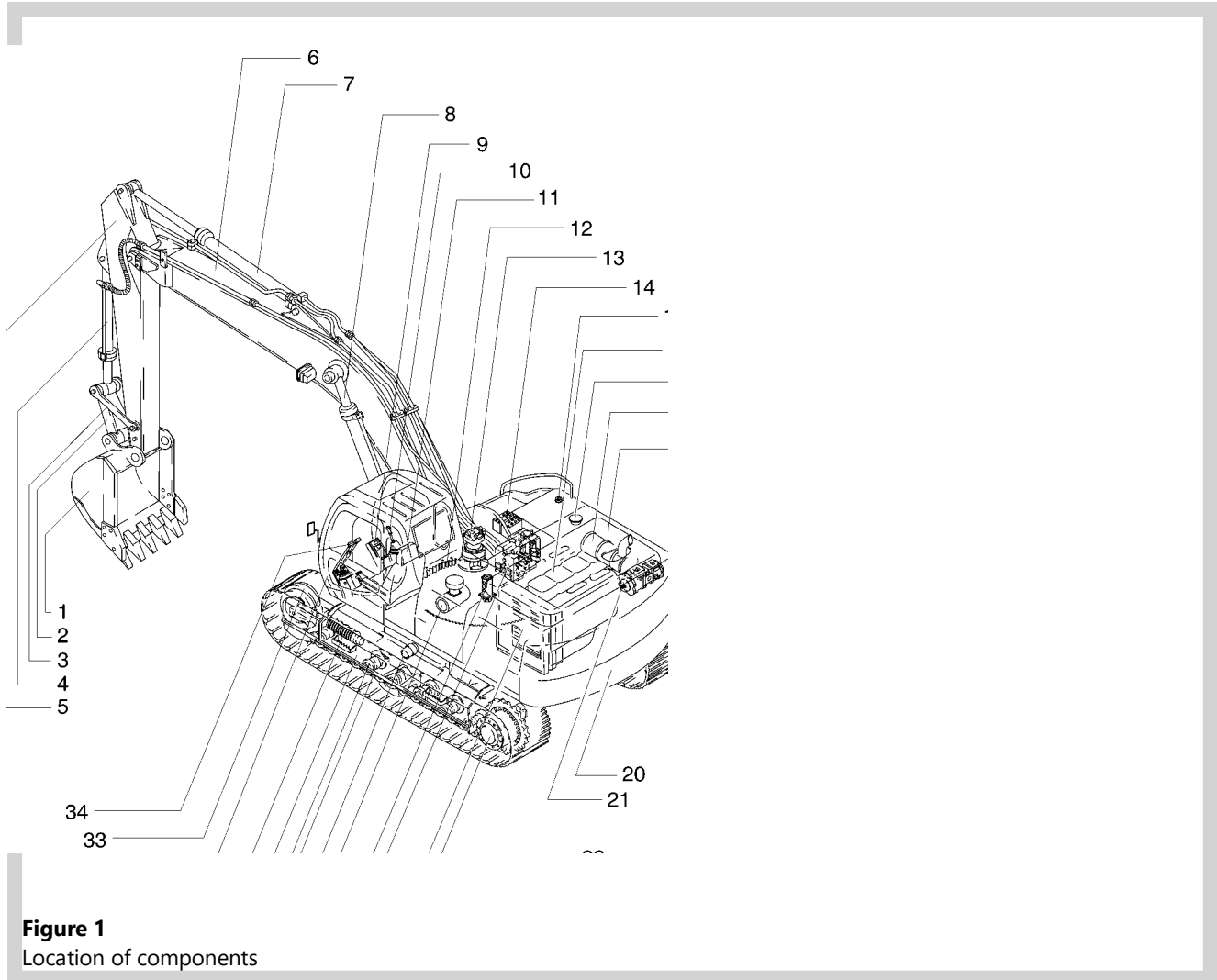


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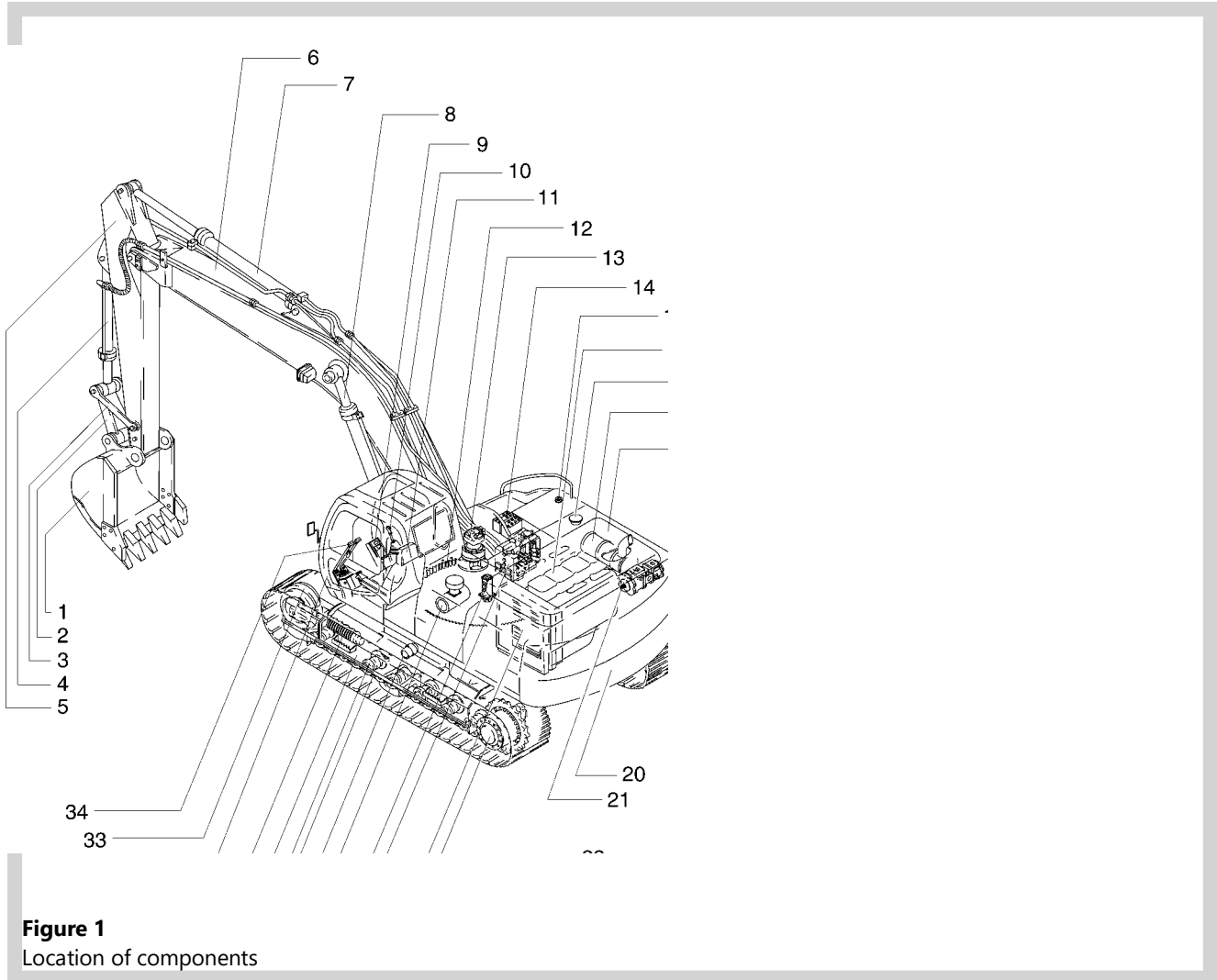


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Document Title: Measurement conversion tables	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
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Measurement conversion tables

Length

Unit	cm	m	km	in	ft	yd	mile
cm	1	0.01	0.00001	0.3937	0.03281	0.01094	0.000006
m	100	1	0.001	39.37	3.2808	1.0936	0.00062
km	100000	1000	1	39370.7	3280.8	1093.6	0.62137
in	2.54	0.0254	0.000025	1	0.08333	0.02777	0.000015
ft	30.48	0.3048	0.000304	12	1	0.3333	0.000189
yd	91.44	0.9144	0.000914	36	3	1	0.000568
mile	160930	1609.3	1.6093	63360	5280	1760	1

1 mm = 0.1 cm, 1 mm = 0.001 m

Area

Unit	cm ²	m ²	km ²	a	ft ²	yd ²	in ²
cm ²	1	0.0001	-	0.000001	0.001076	0.000012	0.155000
m ²	10000	1	0.000001	0.01	10.764	1.1958	1550.000
km ²	-	1000000	1	10000	1076400	1195800	-
a	0.01	100	0.0001	1	1076.4	119.58	-
ft ²	-	0.092903	-	0.000929	1	0.1111	144.000
yd ²	-	0.83613	-	0.008361	9	1	1296.00
in ²	6.4516	0.000645	-	-	0.006943	0.000771	1

1 ha = 100 a, 1 mile² = 259 ha = 2.59 km²

Volume

Unit	cm ³ = cc	m ³	l	in ³	ft ³	yd ³
cm ³ = m l	1	0.000001	0.001	0.061024	0.000035	0.000001
m ³	1000000	1	1000	61024	35.315	1.30796
l	1000	0.001	1	61.024	0.035315	0.001308
in ³	16.387	0.000016	0.01638	1	0.000578	0.000021
ft ³	28316.8	0.028317	28.317	1728	1	0.03704
yd ³	764529.8	0.76453	764.53	46656	27	1

1 gal (US) = 3785.41 cm³ = 231 in³ = 0.83267 gal (US)

Weight

Unit	g	kg	t	oz	lb
g	1	0.001	0.000001	0.03527	0.0022
kg	1000	1	0.001	35.273	2.20459
t	1000000	1000	1	35273	2204.59

oz	28.3495	0.02835	0.000028	1	0.0625
lb	453.592	0.45359	0.000454	16	1
1 tonne (metric) = 1.1023 ton (US) = 0.9842 ton (UK)					

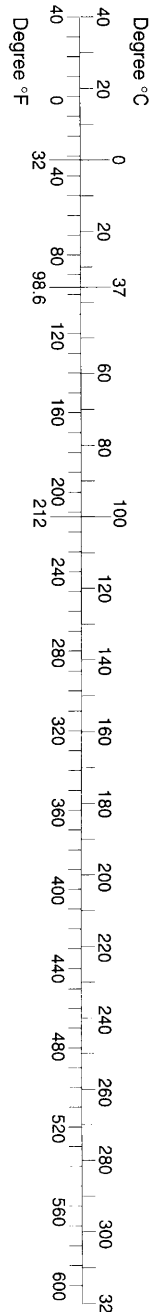
Pressure

Unit	kgf/cm ²	bar	Pa=N/m ²	kPa	lbf / in ²	lbf / ft ²
kgf / cm ²	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
Pa=N / m ²	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf / in ²	0.07032	0.0689	6894.76	6.89476	1	144
lbf / ft ²	0.00047	0.00047	47.88028	0.04788	0.00694	1
kgf / cm ² = 735.56 Torr (mmHg) = 0.96784 atm						

Approximately conversions

SI Unit	Conversion Factor	Non-SI Unit	Conversion Factor	SI Unit
Torque				
newton meter (N·m)	x 10.2	= kgf·cm	x 0.8664	= (lb·in)
newton meter (N·m)	x 0.74	= lbf·ft	x 1.36	= N·m
newton meter (N·m)	x 0.102	= kgf·m	x 7.22	= (lbf·ft)
Pressure (Pa = N / m²)				
kilopascal (kPa)	x 4.0	= in. H ₂ O	x 0.249	= kPa
kilopascal (kPa)	x 0.30	= in. Hg	x 3.38	= kPa
kilopascal (kPa)	x 0.145	= psi	x 6.89	= kPa
(bar)	x 14.5	= psi	x 0.069	= (bar)
(kgf / cm ²)	x 14.22	= psi	x 0.070	= (kg / cm ²)
(newton / mm ²)	x 145.04	= psi	x 0.069	= (bar)
megapascal (MPa)	x 145	= psi	x 0.00689	= MPa
Power (W = J / s)				
kilowatt (kW)	x 1.36	= PS (cv)	x 0.736	= kW
kilowatt (kW)	x 1.34	= HP	x 0.746	= kW
kilowatt (kW)	x 0.948	= Btu / s	x 1.055	= kW
watt (W)	x 0.74	= ft·lb / s	x 1.36	= W
Energy (J = N·m)				
kilojoule (kJ)	x 0.948	= Btu	x 1.055	= kJ
joule (J)	x 0.239	= calorie	x 4.19	= J
Velocity and Acceleration				
meter per sec ² (m / s ²)	x 3.28	= ft / s ²	x 0.305	= m / s ²
meter per sec (m / s)	x 3.28	= ft / s	x 0.305	= m / s
kilometer per hour (km / h)	x 0.62	= mph	x 1.61	= km / h
Horse Power / Torque				
BHP x 5252 R.P.M. = TQ (lbf·ft)			TQ x R.P.M. 5252 = B.H.P.	
Temperature				
°C = (°F - 32) / 1.8		°F = (°C x 1.8) + 32		
Flow Rate				
liter / min (dm ³ / min)	x 0.264	= US gal / min x 3.785	= liter / min	

Note: () Non-Si Unit



S00244A

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yd ²	-	0.83613	-	0.008361	9	1	1296.00
in ²	6.4516	0.000645	-	-	0.006943	0.000771	1

1 ha = 100 a, 1 mile² = 259 ha = 2.59 km²

Volume

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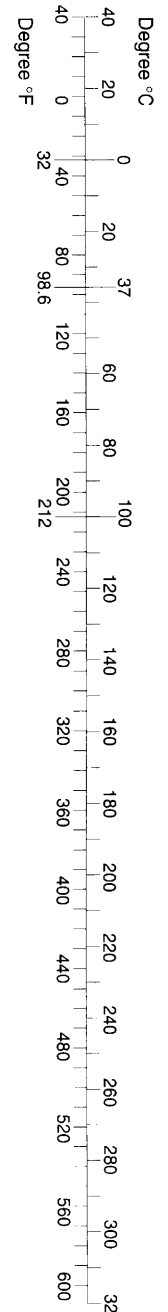
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megapascal (MPa)	x 145	= psi	x 0.00689	= MPa
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kilowatt (kW)	x 1.36	= PS (cv)	x 0.736	= kW
kilowatt (kW)	x 1.34	= HP	x 0.746	= kW
kilowatt (kW)	x 0.948	= Btu / s	x 1.055	= kW
watt (W)	x 0.74	= ft·lb / s	x 1.36	= W
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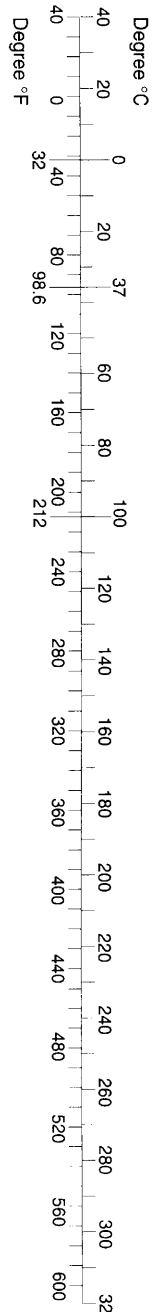
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kgf / cm ²	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
Pa=N / m ²	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf / in ²	0.07032	0.0689	6894.76	6.89476	1	144
lbf / ft ²	0.00047	0.00047	47.88028	0.04788	0.00694	1
kgf / cm ² = 735.56 Torr (mmHg) = 0.96784 atm						

Approximately conversions

SI Unit	Conversion Factor	Non-SI Unit	Conversion Factor	SI Unit
Torque				
newton meter (N·m)	x 10.2	= kgf·cm	x 0.8664	= (lb·in)
newton meter (N·m)	x 0.74	= lbf·ft	x 1.36	= N·m
newton meter (N·m)	x 0.102	= kgf·m	x 7.22	= (lbf·ft)
Pressure (Pa = N / m²)				
kilopascal (kPa)	x 4.0	= in. H ₂ O	x 0.249	= kPa
kilopascal (kPa)	x 0.30	= in. Hg	x 3.38	= kPa
kilopascal (kPa)	x 0.145	= psi	x 6.89	= kPa
(bar)	x 14.5	= psi	x 0.069	= (bar)
(kgf / cm ²)	x 14.22	= psi	x 0.070	= (kg / cm ²)
(newton / mm ²)	x 145.04	= psi	x 0.069	= (bar)
megapascal (MPa)	x 145	= psi	x 0.00689	= MPa
Power (W = J / s)				
kilowatt (kW)	x 1.36	= PS (cv)	x 0.736	= kW
kilowatt (kW)	x 1.34	= HP	x 0.746	= kW
kilowatt (kW)	x 0.948	= Btu / s	x 1.055	= kW
watt (W)	x 0.74	= ft·lb / s	x 1.36	= W
Energy (J = N·m)				
kilojoule (kJ)	x 0.948	= Btu	x 1.055	= kJ
joule (J)	x 0.239	= calorie	x 4.19	= J
Velocity and Acceleration				
meter per sec ² (m / s ²)	x 3.28	= ft / s ²	x 0.305	= m / s ²
meter per sec (m / s)	x 3.28	= ft / s	x 0.305	= m / s
kilometer per hour (km / h)	x 0.62	= mph	x 1.61	= km / h
Horse Power / Torque				
BHP x 5252 R.P.M. = TQ (lbf·ft)			TQ x R.P.M. 5252 = B.H.P.	
Temperature				
°C = (°F - 32) / 1.8		°F = (°C x 1.8) + 32		
Flow Rate				
liter / min (dm ³ / min)	x 0.264	= US gal / min x 3.785	= liter / min	

Note: () Non-Si Unit



S00244A

Document Title: Specifications, general	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
Profile:			

Specifications, general

Specifications

Item		Unit	Specifications
Operating weight		kg	14430
		lbs	31813
Ground contact pressure		kgf / cm ²	0.31
		psi	4.41
Slew speed	Steady	rpm	11.9
Travel speed	1 speed	km / h	3.1
		mph	1.9
	2 speed	km / h	5.3
		mph	3.3
Maximum digging force (Normal / Pressurized)		kg	9490 / 10380
		lbs	20921 / 22884
Maximum tractive effort		ton	14.3
Gradeability		%	70
		degree	35

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Specifications, general

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Specifications, general

Specifications

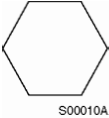
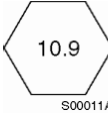
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Document Title: Standard tightening torque	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
Profile:			


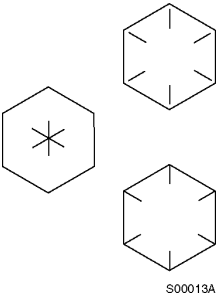
Standard tightening torque

The following charts give the standard tightening torques of screws and nuts. Exceptions are given in sections of "Disassembly and Assembly"

Tightening torque (meter)

Classification	4T, 5T	10T
Screw type		
Screw size	Torque kgf·m (lbf·ft)	Torque kgf·m (lbf·ft)
M4	0.2 ± 0.02 (1.4 ± 0.1)	0.4 ± 0.04 (2.9 ± 0.3)
M5	0.3 ± 0.03 (2.2 ± 0.2)	0.8 ± 0.08 (5.8 ± 0.6)
M6	0.5 ± 0.05 (3.6 ± 0.4)	1.4 ± 0.14 (10.1 ± 1.0)
M8	1.2 ± 0.12 (8.7 ± 0.9)	3.3 ± 0.3 (23.8 ± 2.2)
M10	2.3 ± 0.23 (16.6 ± 1.7)	6.5 ± 0.7 (47 ± 5)
M12	4.0 ± 0.4 (29 ± 3)	11.3 ± 1.1 (82 ± 8)
<M14>	6.4 ± 0.6 (46 ± 4)	17.9 ± 1.8 (129 ± 13)
M16	9.5 ± 0.9 (69 ± 6)	26.7 ± 2.7 (193 ± 19)
<M18>	13.5 ± 1.4 (97 ± 10)	38.0 ± 3.8 (274 ± 27)
M20	18.6 ± 1.9 (134 ± 14)	52.2 ± 5.2 (377 ± 38)
<M22>	24.7 ± 2.5 (178 ± 18)	69.4 ± 6.9 (500 ± 50)
M24	32.1 ± 3.2 (232 ± 23)	90.2 ± 9.0 (650 ± 65)
M30	62.6 ± 6.3 (452 ± 45)	176.1 ± 17.6 (1270 ± 127)
M36	108.2 ± 10.8 (781 ± 78)	304.3 ± 30.4 (2200 ± 220)
M42	171.8 ± 17.2 (1240 ± 124)	483.2 ± 48.3 (3500 ± 350)
M45	211.3 ± 21.1 (1525 ± 152)	594.3 ± 50.4 (4300 ± 430)

Tightening torque (inch)

Classification	4T, 5T	10T
Screw type		
Screw size	Torque kgf·m (lbf·ft)	Torque kgf·m (lbf·ft)
1/4	0.6 ± 0.06 (4.3 ± 0.4)	1.7 ± 0.2 (12.2 ± 1.2)
5/16	1.2 ± 0.12 (8.7 ± 0.8)	3.0 ± 0.3 (21.7 ± 2.2)
3/8	2.0 ± 0.20 (14.4 ± 1.4)	5.6 ± 0.5 (40 ± 4)
7/16	3.2 ± 0.32 (23 ± 2)	8.9 ± 0.9 (64 ± 6)
1/2	4.7 ± 0.47 (34 ± 3)	13.4 ± 1.3 (97 ± 10)
9/16	6.8 ± 0.68 (50 ± 5)	19.0 ± 1.9 (137 ± 14)
5/8	9.3 ± 0.93 (67 ± 7)	26.1 ± 2.6 (190 ± 19)
3/4	16.0 ± 1.60 (115 ± 15)	45.1 ± 4.5 (325 ± 33)
7/8	25.5 ± 2.55 (185 ± 19)	71.6 ± 7.2 (520 ± 52)

1	38.0 ± 3.80 (275 ± 27)	106.9 ± 10.7 (770 ± 77)
1-1/8	54.1 ± 5.41 (390 ± 39)	152.2 ± 15.2 (1100 ± 110)
1-1/4	74.2 ± 7.42 (535 ± 54)	208.9 ± 20.9 (1510 ± 151)
1-3/4	98.8 ± 9.88 (710 ± 71)	277.8 ± 27.8 (2000 ± 200)
1-1/2	128.2 ± 12.82 (925 ± 93)	360.7 ± 36.1 (2600 ± 260)

This torque table does not apply to screws with nylon packings or where nonferrous metal washers are to be used, or which require tightening to a different specified torque, or tightening procedure.

- N·m (Newton meter) : 1 N·m \cong 0.1 kgf·m

Tightening torque of split flange screws

Use these torques for split flange screws.

Tightening torque (split flange screws)

Thread diameter of screw (mm)	Width across flats (mm)	Tightening torque	
		kgf·m (lbf·ft)	N·m
10	14	6.7 ± 0.7 (48.4 ± 5)	65.7 ± 6.8
12	17	11.5 ± 1 (83 ± 8)	112 ± 9.8
16	22	28.5 ± 3 (206 ± 20)	279 ± 29

Tightening torque for hydraulic plugs with o-ring

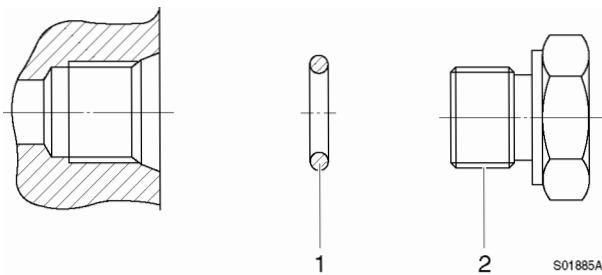


Figure 1

Hydraulic plugs with o-ring

1. O-ring
2. Plug

PF thread

Tightening torque (hydraulic plugs)

Thread	Plug part no.	Tightening torque kgf·m (lbf·ft)
1/8	9415-11012	2.5 ± 0.2 (18 ± 1.4)
1/4	9415-11022	5.0 ± 0.5 (36.1 ± 3.6)
3/8	9415-11032	7.5 ± 0.5 (54 ± 3.6)
1/2	9415-11042	11.0 ± 1.0 (79.4 ± 7.2)
3/4	9415-11052	18.0 ± 1.0 (130 ± 7)
1	9415-11062	21.0 ± 2.0 (152 ± 14)

Tightening torque for swivel nut fitting with o-ring

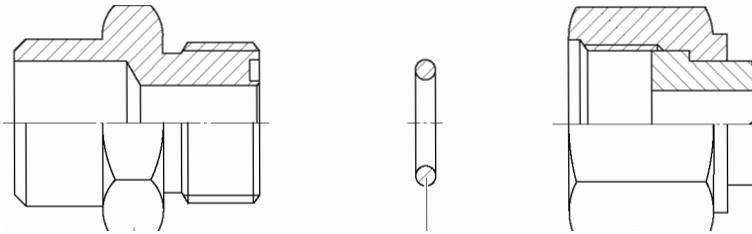


Figure 2
Swivel nut fitting with o-ring

1. Connector
2. O-ring
3. Swivel nut
4. Hose

Tightening torque for swivel nut fitting

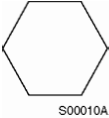
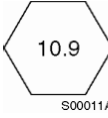
Tube outer diameter(in)	Thread size (in)	Tightening torque of hose nut and fitting, kgf-m (lbf-ft)
1/2	UN 13/16-16	9.5 ± 0.95 (69 ± 7)
3/4	UN 1 3/16-12	18 ± 1.8 (130 ± 13)
1	UN 1 7/16-12	21 ± 2.1 (152 ± 15)

Document Title: Standard tightening torque	Function Group: 030	Information Type: Service Information	Date: 7/8/2025
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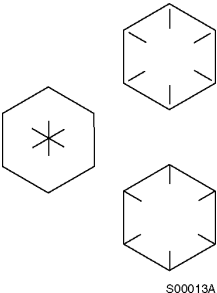
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- N·m (Newton meter) : 1 N·m \cong 0.1 kgf·m

Tightening torque of split flange screws

Use these torques for split flange screws.

Tightening torque (split flange screws)

Thread diameter of screw (mm)	Width across flats (mm)	Tightening torque	
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10	14	6.7 ± 0.7 (48.4 ± 5)	65.7 ± 6.8
12	17	11.5 ± 1 (83 ± 8)	112 ± 9.8
16	22	28.5 ± 3 (206 ± 20)	279 ± 29

Tightening torque for hydraulic plugs with o-ring

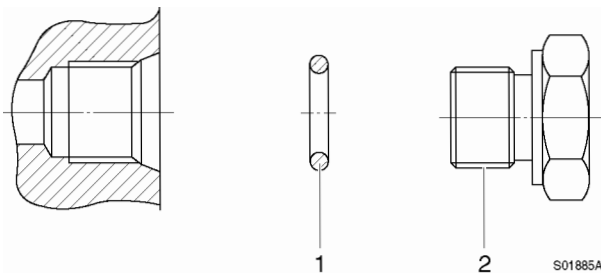


Figure 1

Hydraulic plugs with o-ring

1. O-ring
2. Plug

PF thread

Tightening torque (hydraulic plugs)

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3/8	9415-11032	7.5 ± 0.5 (54 ± 3.6)
1/2	9415-11042	11.0 ± 1.0 (79.4 ± 7.2)
3/4	9415-11052	18.0 ± 1.0 (130 ± 7)
1	9415-11062	21.0 ± 2.0 (152 ± 14)

Tightening torque for swivel nut fitting with o-ring

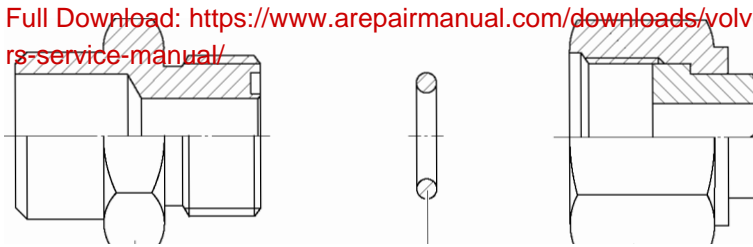


Figure 2

Swivel nut fitting with o-ring

1. Connector
2. O-ring
3. Swivel nut
4. Hose

Tightening torque for swivel nut fitting

Tube outer diameter(in)	Thread size (in)	Tightening torque of hose nut and fitting, kgf-m (lbf-ft)
1/2	UN 13 / 16-16	9.5 ± 0.95 (69 ± 7)
3/4	UN 1 3 / 16-12	18 ± 1.8 (130 ± 13)
1	UN 1 7 / 16-12	21 ± 2.1 (152 ± 15)