

Balfit® SAE 37° Flared Pipe Fittings

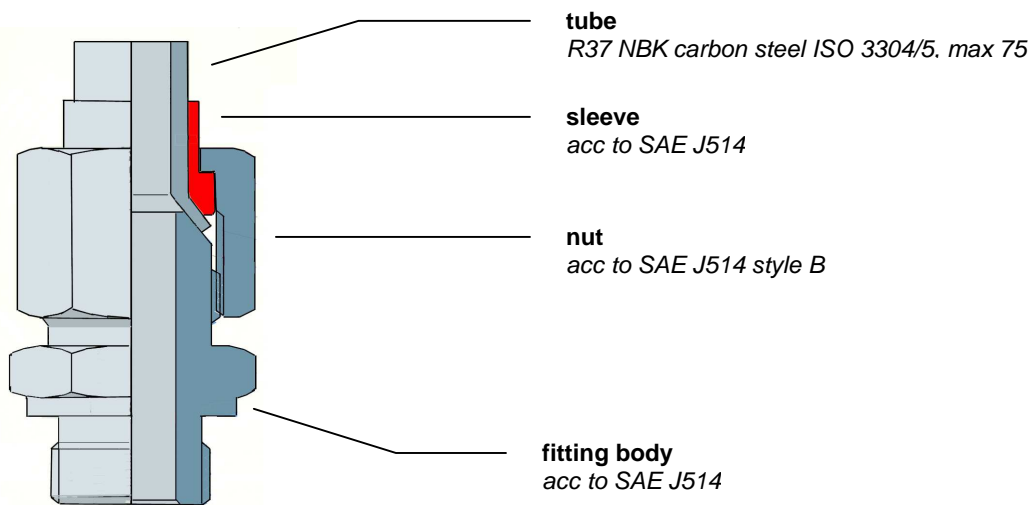


Flared tube operation principle

The 37° flared mechanical fittings assure assembly of threaded fittings to flared hydraulic tubes without any need of welding. It provides assembly simplicity with perfect sealing characteristics.

Sealing is achieved through tightness of the two conical surfaces of fitting and tube. In the Balfit® tree piece tube assembly, a sleeve fits on the flared tube and into the tightening nut. When the nut is tightened the sleeve is compressed against the pipe flare and the fitting cone, assuring both securement and metal to metal sealing.

Balfit® 37° flared tube fittings feature single seal reduced surface, that allows high pressure even at low torque levels. Installation and maintenance are thus simplified. Furthermore, simple interchange of the sleeve allows to use the same fittings and nuts with Metric or Imperial tube sizes.



Assembly Instructions

The assembly sequence comprises the following steps:

- The tube is cut square with a hack-saw (roller type saws should be avoided), leaving a straight section for assembly of the fitting with at least two and a half times the length of the nut; the tube edges must be deburred.
- The nut and the sleeve are inserted up the tube as in the picture above; the larger diameter of the ring must face the end of the tube to be flared.
- The tube is flared with appropriate machine and hardened tools (internal cone angle 74°, external cone angle 66°); check alignment of tube and flaring.
- All components that will be tightened must be lubricated.

Note: In step c) make sure that the tube is correctly aligned while flaring. Misalignments may lead to leakage and untightening. If the flaring has not the appropriate size and alignment the process has to be restarted. Fittings and nuts should not be used to align improperly bent or flared tube; the strain on the joint may lead to leakage.

Construction characteristics and dimensions may be changed at any time without prior notice.

The data contained herein is information purposes only and does not enlarge, amend or imply any warranty other than provided by the manufacturer with the product. Any use of the product not in conformance with the manufacturer's instructions may be dangerous.

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Balfit[®] SAE 37° Flared Pipe Fittings

Technical Characteristics

The Balfit[®] 37° flared tube fittings in carbon steel are designed for petroleum based hydraulic fluids applications with a **temperature range of - 20°C (- 4°F) to + 100°C (+ 212°F)**. Fittings without incorporated sealing rings may exceed these temperature limits up to 150°C. Stainless steel variants of the fittings with viton seals, achieving maximum temperatures of 200° C (+ 392°F), are listed in the catalogue pages. If other fluids are used, corrosion resistance of the fittings should be verified before application.

The **safety factor of 4:1** relating minimum burst pressure to recommended working pressure applies. The working pressure for each fitting and size is listed in the catalogue pages for working temperature of 20° C (+ 68°F). A linear de-rating factor of 12% / 100°C (+ 212°F) should be used for higher working temperatures. A further de-rating factor of 60% should be used for applications with high impulse cycles.

All bend, tee and cross Balfit[®] 37° flared tube Series 35 fittings are made from forged parts, assuring higher reliability and longer service life-span. Straight parts are machined from stock bars.

Cylindrical and taper threads should be used always matched. In case of cylindrical threads used against softer materials, gasket type should always be preferred, to guarantee sealing even at low torque values.

General Guidelines

Hydraulic hose lines should always be inspected and hydraulically tested before installment. All hydraulic systems should be tested against leakage and with appropriate precautions after any intervention.

The failure of hydraulic lines may be dangerous and expose people and property to irreversible damage. Among other occurrences that must be prevented are the high velocity and high temperature projection of hydraulic fluid, the projection of connectors, pipes and it's parts, spillage or combustion of the fluid, immovability, fall or sudden movement of masses controlled by the hydraulic system.

Hydraulic connectors should be stored protected from humidity and other corrosion inducing factors. Packaging should protect sealing areas and threads against shocks and other damage. Whenever the weight of the parts or the packaging type does not allow assuring this kind of protection, individual plastic caps should be used. All connectors should preferably be handled in small quantities and never in bulk quantities.

Recovered materials should never be used, as the degree of aging and fatigue is unknown and materials that pass visual inspection may be close to life limit. Good practice recommendations and standards exclude therefore the reutilization of used hose. The reutilization of recovered connectors should also be considered with the greatest restraint, as sealing and resistance characteristics may be sharply reduced.

Manufacturing processes leave dirt residues in the tube. Cutting and deburring may leave metal particles that should be removed In order to prevent contamination of the hydraulic system.

Important notice

Selection, assembly and installation of hydraulic lines require specific professional training. This catalogue only supplies additional information and technical data for selection and use of Balfit[®] 37° flared fittings.

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Cross-reference for SAE 37° Flared Pipe Fittings

Showing **Balfit®** SAE 37° flared fittings type with corresponding competitor's SAE 37° flared fittings type

Balfit® SAE 37° Flared Pipe Fittings 35 Serie type	Aeroquip Eaton	Air Way	Brennan	Imperial Eastman	Parker	Weather head
35.017 – Locknut					WLN	
35.110 – Nut	1290	318	318	841 - FS	BTX / 06B	C 5105
35.120 – Sleeve Metric Pipe					TX Metric	
35.121 – Sleeve Inch Pipe	900605	319	319	840 - FS	TX / 06S	C 5165
35.140 – JIC Plug	900599	2408	2408	839 - FS	PNTX / 03CP	C 5229
35.141 – Str Thread Plug	900598	6408	6408	721 - FSO	P50N	C 7237
35.142 – Cap					FNTX	
35.160 – Sw Con JIC F x NPT M					F6X / 0506	
35.180 – Sw Con JIC F x SAE-ORB M					F650X	
35.200 - Male Connector	2021	2404	2404	848 - FS	FTX / 103	C 5205
35.220 - St. Thread Conn.	202702	6400	6400	848 - FSO	F5OX / 0503	C 5315
35.230 - BSPP Connector			7002		F42EDMX	
35.235 – Sw Con JIC F x BSPP M					F642EDMX	
35.250 – Bulkhead Union	2041	2700	2700	832 - FS	WTX	C 5325
35.260 – Straight Union	2027	2403	2403	842 - FS	HTX / 0303	C 5305
35.280 – Male JIC x Female NPT Con					GTX / 0203	
35.281 – NPT Fem x Pipe NPT Fem	2046	1405	1405	60 - SG	GG / 0202	9255
35.282 – Sw. NPT Male x Sw NPSM Female	2045	1404	1404	60 - SA	0207	9205
35.285 – Fixed NPT Fem x Sw NPSM Fem						
35.290 – 90° Elbow JIC M x NPT F					DTX	
35.291 – NPT Fem Run Tee					MTX / 023T	
35.292 – NPT Fem Branch Tee					OTX / 223T	
35.500 – Union 90° Elbow	2039	2500	2500	855 - FS	ETX / 2303	C 5505
35.505 – Union Tee	2033	2603	2603	844 - FS	JTX / 033 T	C 5705
35.525 – Male 90° Elbow	2024	2501	2501	849 - FS	CTX / 2103	C 5405
35.530 – NPT Run Tee	2028	2605	2605	851 - FS	RTX / 013T	C 5755
35.535 – NPT Branch Tee	2030	2601	2601	845 - FS	STX / 213T	C 5605
35.540 – 45° Male Elbow	2023	2503	2503	854 - FS	VTX / 3103	C 5355
35.575 – 90° St. Tread Elbow	2062	6801	6801	849 - FSO	C50X / 2503	C 5515
35.580 – Str Thr Run Tee	203005	6804	6804	851 - FSO	R50X / 053T	
35.585 – Str Thr Branch Tee	203003	6803	6803	845 - FSO	S50X / 253T	C 5715
35.590 – 45° St. Tread Elbow	2061	6802	6802	854 - FSO	V50X / 3503	C 5365
35.600 – 90° BSP Elbow			7200		C40MX	
35.605 – BSP Run Tee					R40MX	
35.610 – BSP Branch Tee					S40MX	
35.650 – Bulkhead 90° Elbow	2043	2701	2701	855BH - FS	WETX / 2353	
35.675 – Swivel 90° Elbow	2071	6500	6500	879 - FS	C6X / 3903	C 5506
35.680 – Swivel Run Tee	203102	6602	6602	871 - FS	R6X / 063T	C 5706
35.685 – Swivel Branch Tee	203101	6600	6600	872 - FS	S6X / 393T	C 5707
35.690 – Swivel 45° Elbow	2070	6502	6502	889 - FS	V6X / 3703	

Some Eaton-Aeroquip and Parker size references are reversed

The information provided by this Cross-reference chart is intended as a reference guide only. These SAE 37° flared fittings are similar but not exactly equal in all technical data and dimensions. Refer to SAE 37° flared fittings specifications to assure that the suggested SAE 37° flared fitting will attend the required application.

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