maXair

AllTech Pneumatics

Compressed Air Solutions

maXair

Product Catalogue & Technical Manual

Including extensive
Data, Information
and Instructions.
Everything you need
for a modern, efficient
Compressed Air Pipe System.

AllTech Pneumatics

maxair

This new technical and product manual is designed to give you access to a superior system for your compressed air reticulation requirements.

Maxair utilises PE100, a product of advanced materials technology which outperforms other pipes for pressure, flow, corrosion resistance, compatibility with compressor oils & ease of installation and alteration.

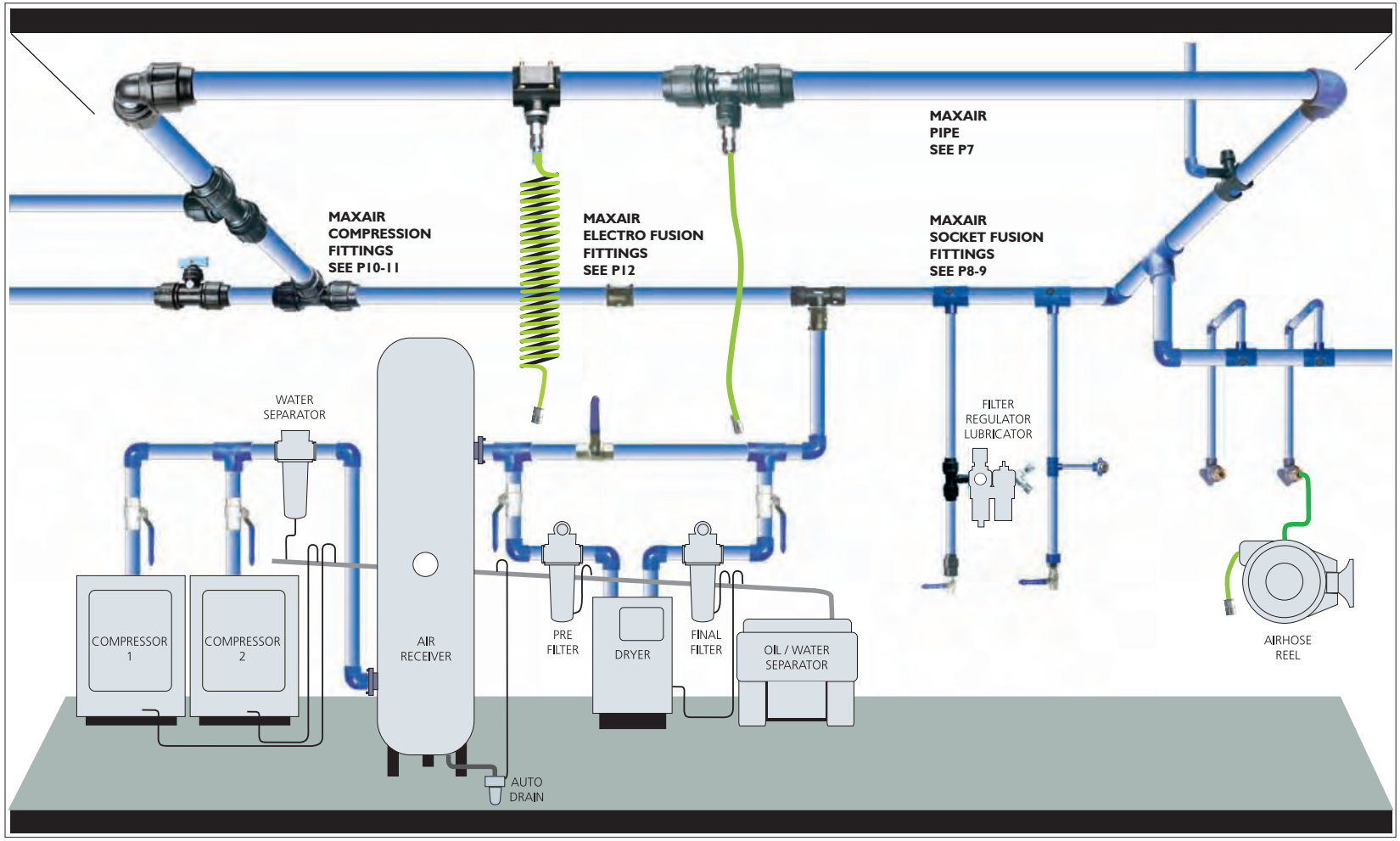
Complementing this outstanding development in clean robust pipework is a comprehensive range of quality components to help you select the best solution for your individual requirements.

This range is a result of research and experience within a broad cross section of industrial applications.

This manual includes technical data and installation guidelines to assist you to design an air supply system that is precisely tailored to your requirements.

Compressed gasses have inherent dangers, so an uncompromising standard of quality, conservative pressure ratings and the highest safety factors of any polymer piping system as set out in Australian Standards is now available.

SCHEMATIC OF A TYPICAL AIR LINE SYSTEM



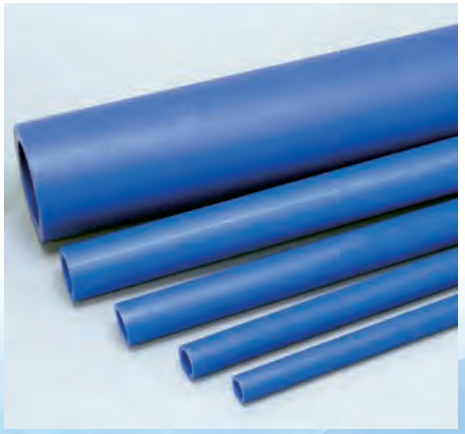
INDEX

maxair

FEATURES & BENEFITS OF MAXAIR AIR PIPE SYSTEMS

WITH MAXAIR THE CHOICE IS EASY!

- 50 YEAR WARRANTY
- SIMPLE & FAST TO INSTALL
- EASY TO ALTER OR ADAPT
- LIGHTWEIGHT
- STRONG, ROBUST, SAFE
- LOW FRICTION, SMOOTH BORE
- BROAD CHEMICAL RESISTANCE
- NO CORROSION
- NO METALLIC CONTAMINATION
- WIDE RANGE OF PIPE SIZES 20MM TO 160MM
- FOOD GRADE MATERIALS
- SUITABLE FOR BREATHING AIR
- DISTINCTIVE BLUE COLOUR
- GOOD THERMAL PROPERTIES
- SUITABLE UNDERGROUND
- UNDERPRESSURE CONNECTION FITTINGS



ECONOMIC ADVANTAGES OF MAXAIR AIR PIPE SYSTEMS

$ Elimination of costly air leaks. This is now possible with fusion welded fittings and/or proven O-Ring fittings. Common problems with traditional materials of maintaining air pressure and recurring air leaks, prove costly in both wastage of valuable compressed air and downtime/maintenance costs to rectify leaks.

$ Energy savings through reduced friction. Ultra smooth bore and low friction material.

$$ Savings in labour costs in installation & modification.

$$ Low capital costs.

$$ Low maintenance. Along with low initial costs, the true economy of the Maxair PE100 pipe system is realised in long term efficiency, reliability, versatility and minimisation of maintenance.

QUALITY 50 YEAR GUARANTEE

Meets Australian Standards AS4130 & AS4131 and made in Australia under strict ISO 9002 Certified Quality Systems. Maxair PE 100 is the highest grade of PE in Australian Standard AS4131. Blue colour to assist in identification and colour coding without painting. (Australian Standards require marking/colour coding).

GUARANTEE

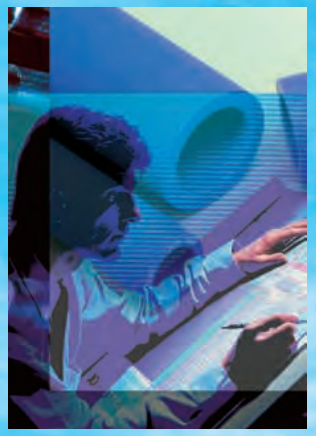
Maxair PE 100 pipe is manufactured in accordance to AS 4130 / AS 4131 and is accordingly guaranteed for 50 years provided recommended design, installation and operation practices are adopted. As established from long term testing, PE 100 may be operated continuously under pressure for up to 200 years at 20degC.

COMPLIES WITH AS 4130

50 YEAR WARRANTY

ELIMINATION OF PIPE CORROSION

A major disadvantage with traditional galvanised iron air pipe has been corrosion of pipe with consequent problems: Contamination of air supply, damaging tools & pneumatics, increased friction giving energy losses, reduced bore and eventual need for replacement. Maxair eliminates this corrosion giving cleaner air and long lasting smooth bore.



DESIGN FLEXIBILITY

The three extensive ranges of Maxair fittings - Socket Fusion, Electro Fusion or Compression, all using the same pipe, offer the Designer/Engineer maximum design flexibility.
The value to Industry of a total package which is readily altered at any stage is inestimable. This system is ideally suited to today's requirement for rapid installation schedules.

QUICK, CLEAN, SIMPLE INSTALLATION

No tedious threading of pipe, flaring or gluing. Installation can be 2-5 times quicker than with traditional materials. Simple to modify. New branches, extensions or take-offs can be added with a minimum of disruption & cost. The typical inflexibility of traditional systems is overcome. An extensive range of fittings provides further design versatility.

CHEMICAL RESISTANCE

Maxair has broad chemical compatibility and provides a solution for harsh corrosive environments. Fusion welded fittings provide a high degree of safety in these areas. Welded PE 100 is the ultimate Polyethylene system due to its fused jointing, minimum entrapment and high safety factor. Please refer to Technical Department for specific applications.

FOOD CONTACT GRADE MATERIALS

Maxair PE100 pipe and fittings conform with AS2070.1 "Plastic material for food contact use", providing system approval for use within a food plant.
Maxair PE100 does not support micro-organisms or bacterial growth.
Maxair Compression fittings conform to AS4129, BS6920.
Maxair Heavy Duty B.S.P threaded fittings conform with AS3855.3.

SUPERIOR STRENGTH

Maxair has higher strength, greater wall thickness and a higher safety factor of 2:1 than other grades of PE currently on the market. Maxair has excellent pressure/temperature capabilities with minimum 50 year design life. Manufactured to PN25 providing a compressed air rating in accordance with Australian Standard AS4130 of 16 bar or 235 P.S.I. @ 20deg C with a 2:1 safety factor. Extremely robust. Impact resistant - is ductile in nature so will not shatter like PVC (PVC is not safe for compressed air). Excellent for underground applications. Thermally stable and suitable for -20deg C to +60deg C continuous, with peaks of up to 95deg C.

CHOOSING YOUR MAXAIR SYSTEM

STEP ONE: SELECT PIPE SIZE.

Four factors need to be taken into consideration when selecting pipe sizes for compressed air reticulation.

-Flow required -Pressure -Distance -Future Expansion

A pipe size should be selected using the chart that allows for maximum compressor output Free Air Delivery (F.A.D.) at the required operating pressure and allow an additional margin for long distance and future expansion.

In practice we recommend a minimum reserve margin of 30%. Larger pipe provides reserve capacity for peak demands.

PRESSURE/FLOW TABLE

Maximum recommended air flow for each pipe size.

PRESSURE		AIR 20		AIR 25		AIR 32		AIR 40		AIR 50		AIR 63		AIR 90		AIR 110		AIR 160		PRESSURE	
BAR	PSI	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	l/sec	cfm	BAR	PSI
3	43.5	7	15	14	30	28	59	48	101	88	186	174	370	475	1006	781	1654	2195	4652	3	43.5
4	58	10	21	20	42	39	83	67	141	122	259	243	515	661	1401	1087	2303	3056	6476	4	58
5	72.5	13	28	26	55	50	107	86	182	158	335	314	665	855	1811	1405	2977	3950	8371	5	72.5
6	87	16	34	32	68	62	132	106	225	195	413	387	820	1054	2233	1732	3671	4872	10323	6	87
7	102	19	41	38	81	74	157	127	268	233	494	462	980	1258	2667	2068	4383	5816	12326	7	102
7.5	109	21	44	41	87	80	170	137	291	252	534	500	1060	1362	2887	2239	4745	6297	13343	7.5	109
8	116	22	47	44	94	87	184	148	313	272	576	539	1142	1467	3109	2412	5111	6782	14372	8	116
10	145	29	61	57	122	112	237	191	405	351	744	697	1476	1896	4019	3117	6606	8766	18576	10	145
13	189	39	83	78	164	151	321	258	547	475	1006	942	1996	2564	5434	4215	8933	11853	25118	13	189

The flow values allow for a pressure drop of 4% of applied pressure over 30 metres of pipe. If a maximum pressure drop of 2% is desired, figures listed above should be de-rated by approximately 20%-30%.

The above table is calculated using values derived from Mueller's formula for gaseous flows.

CONVERSION FACTORS

PRESSURE
1 psi = 0.069bar
1 kpa = 0.145psi
1 bar = 100kpa
1 bar = 14.5psi
1 kg/cm^2 = 1 bar

FLOW
1 cfm = 0.4719 L/sec
1 l/sec = 2.119 cfm
1 m^3/min = 35.3147 cfm
1 m^3/min = 16.67 L/sec

Approximate compressor output calculation:
1kw x 1.35 = HP x 4 =CFM for Screw compressors.
For Piston compressors some manufacturers quote displacement which needs to be derated by 0.75 to calculate F.A.D. (Free Air Delivery).
Size of receivers shall be calculated as 10 times the flow in l/s optimum or 6 times the flow in l/s minimum.

STEP TWO: SELECT FITTINGS.

Select the fitting style most suitable to your requirements. Three ranges are presented. Note that a combination is often used.

Socket Fusion Weld Fittings
(See P8-9) are joined quickly and easily using a welding tool (see P25) and results in a fully fused joint of highest integrity which is leak free, tamper proof and visually pleasing.

Compression "0" Ring Fittings
(See P10-11) are joined quickly and easily by hand (see P24) and offer the advantage of being removable and reusable.

Electro Fusion Weld Fittings

(See P12) are assembled by hand and an electric current is applied via an Electro Fusion Welder (see P25). These fittings enable one or more joints to be assembled and aligned or adjusted prior to welding. This makes the installation of large bore pipework extremely quick and simple plus giving the advantage of a fully welded system.
Also included in this range are **"Under-pressure air saddles"** which are designed for under pressure connections thus eliminating the need to shut down plant and equipment for new connections. They are particularly useful in large plants with 24 hour operations.

STEP THREE: SELECT OUTLET REQUIREMENTS

Select outlet filtration, regulation, lubrication requirements (see P21), and quick couplings, hoses, etc. (P19 & 20) to suit your requirements.

MAXAIR PE100 COMPRESSED AIR PIPE

MANUFACTURED TO AS/NZS4130 STANDARD.

QUALITY 50 YEAR GUARANTEE

PRODUCT CODE	WALL THICKNESS	PN RATING	NOM. I.D Imperial equivalent	O.D.	LENGTH Metres
AIR 20	2.8mm	PN25	5/8"	20mm	6m
AIR 25	3.5mm	PN25	3/4"	25mm	6m
AIR 32	4.4mm	PN25	1"	32mm	6m
AIR 40	5.5mm	PN25	11/4"	40mm	6m
AIR 50	6.9mm	PN25	11/2"	50mm	6m
AIR 63	8.6mm	PN25	2"	63mm	6m
AIR 90	12.5mm	PN25	3"	90mm	6m
AIR 110	15.2mm	PN25	4"	110mm	6m
AIR 160	22mm	PN25	6"	160mm	6m or 12m

PIPE CLIPS

HEAVY DUTY CLIP

SIZE	CODE
63	HCL63
90	HCL 90
110	HCL 110

CL PIPE CLIPS

- Three optional positions for fixings.
- Slots for cable-tie fixings.
- Removable spacer allows greater/less clearance to wall.
- Precise dovetailing on base interlocks to enable neat multiple pipe alignments.
- Adjustable settings allow for movement due to expansion and contraction.

SIZE	CODE
20	CL20
25	CL25
32	CL32
40	CL40
50	CL50
63	CL63
90	CL90

PIPE SUPPORT SYSTEMS P16 AND 17, CLIP SPACING AND INSTALLATION P24

90 DEG TEE

PIPExPIPExPIPE	CODE
20 x 20 x 20	WT 20
25 x 25 x 25	WT 25
32 x 32 x 32	WT 32
40 x 40 x 40	WT 40
50 x 50 x 50	WT 50
63 x 63 x 63	WT 63
90 x 90 x 90	WT 90
110 x 110 x 110	WT 110

REDUCING 90 DEG TEE

PIPExPIPExPIPE	CODE
25 x 20 x 25	WRT 2520
32 x 20 x 32	WRT 3220
32 x 25 x 32	WRT 3225
40 x 20 x 40	WRT 4020
40 x 25 x 40	WRT 4025
40 x 32 x 40	WRT 4032
50 x 20 x 50	WRT 5020
50 x 25 x 50	WRT 5025
50 x 32 x 50	WRT 5032
50 x 40 x 50	WRT 5040
63 x 25 x 63	WRT 6325
63 x 32 x 63	WRT 6332
63 x 40 x 63	WRT 6340
63 x 50 x 63	WRT 6350

COUPLINGS

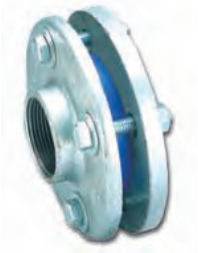
PIPExPIPE	CODE
20 x 20	WC 20
25 x 25	WC 25
32 x 32	WC 32
40 x 40	WC 40
50 x 50	WC 50
63 x 63	WC 63
90 x 90	WC 90
110 x110	WC 110

REDUCING COUPLINGS

FITTINGxPIPE	CODE
25 x 20	WRC 2520
32 x 20	WRC 3220
32 x 25	WRC 3225
40 x 20	WRC 4020
40 x 25	WRC 4025
40 x 32	WRC 4032
50 x 20	WRC 5020
50 x 25	WRC 5025
50 x 32	WRC 5032
50 x 40	WRC 5040
63 x 25	WRC 6325
63 x 32	WRC 6332
63 x 40	WRC 6340
63 x 50	WRC 6350
90 x 63	WRC 9063
110 x 63	WRC 11063
110 x 90	WRC 11090

THREADED FLANGE TABLE D

FLANGExTHREAD	CODE
20 x 1/2"	FT 20
25 x 3/4"	FT 25
32 x 1"	FT 32
40 x 11/4"	FT 40
50 x 1 1/2''	FT 50
63 x 2"	FT 63
90 x 3"	FT 90
110 x 4"	FT 110



STUB FLANGE

PIPE	CODE
20	WF 20
25	WF 25
32	WF 32
40	WF 40
50	WF 50
63	WF 63
90	WF 90
110	WF 110

FLANGE KITS TYPE A

PIPExPIPE	CODE
20 x 20	FKA 20
25 x 25	FKA 25
32 x 32	FKA 32
40 x 40	FKA 40
50 x 50	FKA 50
63 x 63	FKA 63
90 x 90	FKA 90
110 x 110	FKA110

CONSISTS OF: 2 x BACKING RING, 2 x STUB FLANGE, 1 x GASKET, BOLTS, WASHERS & NUTS

FLANGE KITS TYPE B

PIPExTHREAD	CODE
20 x 1/2"	FKB 20
25 x 3/4"	FKB 25
32 x 1"	FKB 32
40 x 11/4"	FKB 40
50 x 11/2''	FKB 50
63 x 2"	FKB 63
90 x 3"	FKB 90
110 x 4"	FKB 110

CONSISTS OF: 1 x BACKING RING, 1 x THREADED FLANGE, 1 x STUB FLANGE, 1 x GASKET, BOLTS, WASHERS & NUTS

FLANGE KITS TYPE C TABLE D

PIPExEXIST FLANGE	CODE
20	FKC 20
25	FKC 25
32	FKC 32
40	FKC 40
50	FKC 50
63	FKC 63
90	FKC 90
110	FKC 110

CONSISTS OF: 1 x BACKING RING, 1 x STUB FLANGE, 1 x GASKET, BOLTS, WASHERS & NUTS

BACKING RING

FLANGE	CODE TABLE D
20	BR 20
25	BR 25
32	BR 32
40	BR 40
50	BR 50
63	BR 63
90	BR 90
110	BR 110

GASKETS

FLANGE	CODE
20	WFG 20
25	WFG 25
32	WFG 32
40	WFG 40
50	WFG 50
63	WFG 63
90	WFG 90
110	WFG 110

THREADED 90 DEG TEE

PIPExTHREAD	CODE
20 x 1/2"	WTF 2015
25 x 1/2"	WTF 2515
32 x 1/2"	WTF 3215
40 x 1/2"	WTF 4015

END CAPS

PIPE	CODE
20	WEC 20
25	WEC 25
32	WEC 32
40	WEC 40
50	WEC 50
63	WEC 63
90	WEC 90
110	WEC 110

90 DEG ELBOW

PIPExPIPE	CODE
20 x 20	WE 20
25 x 25	WE 25
32 x 32	WE 32
40 x 40	WE 40
50 x 50	WE 50
63 x 63	WE 63
90 x 90	WE 90
110 x 110	WE 110

45 DEG ELBOW

PIPExPIPE	CODE
20 x 20	W45 E20
25 x 25	W45 E25
32 x 32	W45 E32
40 x 40	W45 E40
50 x 50	W45 E50
63 x 63	W45 E63
90 x 90	W45 E90
110 x 110	W45 E110

MALE ADAPTOR

PIPExTHREAD	CODE
20 x 1/2"	WMA 2015
25 x 3/4"	WMA 2520
32 x 1"	WMA 3225
40 x 11/4"	WMA 4032
50 x 11/2"	WMA 5040
63 x 2"	WMA 6350

FEMALE ADAPTOR

PIPExTHREAD	CODE
20 x 1/2"	WFA 2015
25 x 3/4"	WFA 2520
32 x 1"	WFA 3225
40 x 11/4"	WFA 4032
50 x 11/2''	WFA 5040
63 x 2"	WFA 6350

THREADED 90 DEGREE ELBOWS

PIPE x THREAD	CODE
20 x 1/2''	WEF 2015 Lugged (Right)
25 x 3/4"	WEF 2520 No lug (Left)

Other fittings and sizes are available

COUPLING

PIPE x PIPE	CODE
20 x 20	C 20
25 x 25	C 25
32 x 32	C 32
40 x 40	C 40
50 x 50	C 50
63 x 63	C 63
90 x 90	C 90
110 x 110	C 110

REDUCING COUPLING

PIPE x PIPE	CODE
25 x 20	RC 2520
32 x 25	RC 3225
40 x 32	RC 4032
50 x 40	RC 5040
63 x 50	RC 6350
90 x 63	RC 9063
110 x 90	RC 11090

AIR SADDLE

PIPE x FEM THREAD	CODE
32 x 1/2"- 3/4" - 1"	AS 32*
40 x 1/2"- 3/4" - 1"	AS 40*
50 x 1/2"- 3/4" - 1"	AS 50*
63 x 1/2", 3/4", 1", 1 1/4", 1 1/2"	AS 63*
90 x 1/2"- 3/4", 1", 1 1/4", 1 1/2", 2"	AS 90*
110 x 1/2"- 3/4", 1", 1 1/4", 1 1/2", 2"	AS110*
160 x 1", 1 1/4", 1 1/2", 2"	AS160*

(*When ordering please complete code).

FEMALE ADAPTOR

PIPE x THREAD	CODE
20 x 1/2"	FA 2015
25 x 3/4"	FA 2520
32 x 3/4"	FA 3220
32 x 1"	FA 3225
40 x 11/4"	FA 4032
50 x 11/2"	FA 5040
63 x 2"	FA 6350

MALE ADAPTOR

PIPE x THREAD	CODE
20 x 1/2"	MA 2015
25 x 1/2"	MA 2515
25 x 3/4"	MA 2520
25 x 1"	MA 2525
32 x 3/4"	MA 3220
32 x 1"	MA 3225
32 x 11/4"	MA 3232
40 x 11/4"	MA 4032
50 x 11/2"	MA 5040
63 x 2"	MA 6350
90 x 2"	MA 9050
90 x 3"	MA 9080
110 x 2"	MA 1102
110 x 3"	MA 1103
110 x 4"	MA 1104

PE100 PIPE TO COPPER PIPE ADAPTOR SET

COPPER x FITTING	CODE
1/2" x 20	PCS 2015
3/4" x 25	PCS 2520
1" x 25	PCS 2525

MAXAIR COMPRESSION FITTINGS FOR COMPRESSED AIR AS4129

END CAPS

PIPE	CODE
20	EC 20
25	EC 25
32	EC 32
40	EC 40
50	EC 50
63	EC 63
90	EC 90
110	EC 110

90 DEG TEE

PIPE x PIPE x PIPE	CODE
20 x 20 x 20	T 20
25 x 25 x 25	T 25
32 x 32 x 32	T 32
40 x 40 x 40	T 40
50 x 50 x 50	T 50
63 x 63 x 63	T 63
90 x 90 x 90	T 90
110 x 110 x 110	T 110

90 DEG TEE with threaded Fem Offtake

PIPE x THREAD x PIPE	CODE
20 x 1/2" x 20	TF 2015
25 x 1/2" x 25	TF 2515
25 x 3/4" x 25	TF 2520
32 x 3/4" x 32	TF 3220
32 x 1" x 32	TF 3225
40 x 1" x 40	TF 4025
40 x 11/4" x 40	TF 4032
50 x 11/2" x 50	TF 5040
63 x 2" x 63	TF 6350

REDUCING 90 DEG TEE

PIPE x PIPE x PIPE	CODE
25 x 20 x 25	RT 2520
32 x 25 x 32	RT 3225
40 x 25 x 40	RT 4025
40 x 32 x 40	RT 4032
50 x 25 x 50	RT 5025
50 x 32 x 50	RT 5032
50 x 40 x 50	RT 5040
63 x 32 x 63	RT 6332
63 x 40 x 63	RT 6340
63 x 50 x 63	RT 6350

REDUCING SET

FITTING x PIPE	CODE
25 x 20	RS 2520
32 x 20	RS 3220
32 x 25	RS 3225
40 x 32	RS 4032
50 x 25	RS 5025
50 x 32	RS 5032
50 x 40	RS 5040
63 x 25	RS 6325
63 x 32	RS 6332
63 x 40	RS 6340
63 x 50	RS 6350

FOR CHEMICAL APPLICATIONS CPVC GRIP RINGS, EPDM O RINGS & VITON O RINGS ARE AVAILABLE

90 DEG ELBOW

PIPE x PIPE	CODE
20 x 20	E 20
25 x 25	E 25
32 x 32	E 32
40 x 40	E 40
50 x 50	E 50
63 x 63	E 63
90 x 90	E 90
110 x 110	E 110

90 DEG ELBOW with threaded Female Offtake

PIPE x THREAD	CODE
20 x 1/2"	EF 2015
25 x 3/4"	EF 2520
32 x 3/4"	EF 3220
32 x 1"	EF 3225
40 x 11/4"	EF 4032
50 x 11/2"	EF 5040
63 x 2"	EF 6350

90 DEG ELBOW with threaded Male Offtake

PIPE x THREAD	CODE
20 x 1/2"	EM 2015
25 x 1/2"	EM 2515
25 x 3/4"	EM 2520
32 x 1"	EM 3225
40 x 11/4"	EM 4032
50 x 11/2"	EM 5040
63 x 2"	EM 6350
90 x 3"	EM 9080
110 x 4"	EM 1104

ELBOW FEMALE (LUGGED)

PIPE x THREAD	CODE
20 x 1/2"	LEF 2015
25 x 3/4"	LEF 2520

COMPRESSION VALVE

PIPE	CODE
20	CV 20
25	CV 25
32	CV 32

UNIVERSAL ADAPTOR

PIPE x METAL PIPE	CODE
25 x 15-22mm	UA 25A
25 x 20-27mm	UA 25B
25 x 27-35mm	UA 25C
32 x 27-35mm	UA 32
50 x 35-50mm	UA 50

MAXAIR ELECTRO FUSION FITTINGS FOR COMPRESSED AIR AS4129

***NOTE: Electro fusion fittings are available from 20mm**

JOINER

PIPE x PIPE	CODE
63 x 63	EFC 63
90 x 90	EFC 90
110 x 110	EFC 110
160 x 160	EFC 160

REDUCING JOINER

PIPE x PIPE	CODE
63 x 32	EFRC 6332
63 x 40	EFRC 6340
63 x 50	EFRC 6350
90 x 63	EFRC 9063
110 x 63	EFRC 11063
110 x 90	EFRC 11090
160 x 90	EFRC 16090
160 x 110	EFRC 160110

TEE

PIPE x FITTING	CODE
63 x 63	EFT 63
90 x 90	EFT 90
110 x 110	EFT 110
160 x 160	EFT 160

REDUCING TEE

PIPE x FITTING	CODE
63 x 32	EFRT 6332
63 x 40	EFRT 6340
63 x 50	EFRT 6350
90 x 63	EFRT 9063
110 x 63	EFRT 11063
110 x 90	EFRT 11090
160 x 90	EFRT 16090
160 x 110	EFRT 160110

REDUCING SPIGOT

FITTING x FITTING	CODE
90 x 63	EFRS 9063
110 x 63	EFRS 11063
110 x 90	EFRS 11090
160 x 90	EFRS 16090
160 x 110	EFRS 160110

MALE ADAPTOR

PIPE x THREAD	CODE
63 x 2"	EFMA 6350P
63 x 2"	EFMA 6350

FEMALE ADAPTOR

PIPE x THREAD	CODE
63 x 2"	EFFA 6350

THREADED FLANGE TABLE D

PIPE x FLANGE	CODE
63 x 2"	FT 63
90 x 3"	FT 90
110 x 4"	FT 110
160 x 6"	FT 160

END PLUG

FITTING	CODE
63	EFEC 63
90	EFEC 90
110	EFEC 110
160	EFEC 160

90 DEG ELBOW

PIPE x PIPE	CODE
63 x 63	EFE 63
90 x 90	EFE 90
110 x 110	EFE 110
160 x 160	EFE 160

45 DEG ELBOW

PIPE x PIPE	CODE
63 x 63	EF45E 63
90 x 90	EF45E 90
110 x 110	EF45E 110
160 x 160	EF45E 160

STUB FLANGE

FITTING x FLANGE	CODE
63 x 63	EFF 63
90 x 90	EFF 90
110 x 110	EFF 110
160 x 160	EFF 160

AIR SADDLE

for under pressure connections

PIPE x FITTING	CODE
63 x 32	EFASP 6332
63 x 40	EFASP 6340
63 x 50	EFASP 6350
90 x 32	EFASP 9032
90 x 40	EFASP 9040
90 x 50	EFASP 9050
90 x 63	EFASP 9063
110 x 32	EFASP 11032
110 x 40	EFASP 11040
110 x 50	EFASP 11050
110 x 63	EFASP 11063
160 x 32	EFASP 16032
160 x 40	EFASP 16040
160 x 50	EFASP 16050
160 x 63	EFASP 16063

BRANCH SADDLE

PIPE x FITTING	CODE
90 x 32	EFBS 9032
90 x 40	EFBS 9040
90 x 50	EFBS 9050
90 x 63	EFBS 9063
110 x 32	EFBS 11032
110 x 40	EFBS 11040
110 x 50	EFBS 11050
110 x 63	EFBS 11063
160 x 32	EFBS 16032
160 x 40	EFBS 16040
160 x 50	EFBS 16050
160 x 63	EFBS 16063

BACKING RING TABLE D

PIPE x FLANGE	CODE
63 x 63	BR 63
90 x 90	BR 90
110 x 110	BR 110
160 x 160	BR 160

GASKET

FLANGE	CODE
63	WFG 63
90	WFG 90
110	WFG 110
160	WFG 160

PIPE WIPES

FOR PRE-CLEANING OF WELD SURFACES.

EFPW QTY 50 PER CONTAINER

MAXAIR INSTALLATION TOOLS

PIPE CUTTERS

FOR PIPE SIZES	CODE
20-40mm	PC40
20-50mm	PC50
20-63mm	PC63

NUT WRENCH

FITTING	CODE
20 - 40mm	NW
40 - 63mm	NW1
63 - 110mm	NW2

PIPE CHAMFERING TOOLS

FOR PIPE SIZES	CODE
20 - 63mm (left)	CHAM 2063
20 - 63mm (right)	CHAM 2063P

ELECTRO FUSION WELDER

PIPE	CODE
20-110mm	EF WELDER

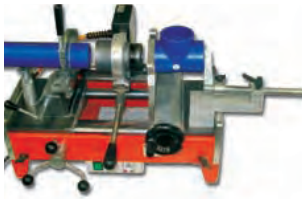
PIPE SCRAPERS for fusion weld process

PIPE	CODE
20mm	WPS 20
25mm	WPS 25
32mm	WPS 32
40mm	WPS 40
50mm	WPS 50
63mm	WPS 63

SOCKET FUSION WELDING MACHINE

STYLE	CODE
Hand machine 20-63mm	SFHM

STYLE	CODE
Mechanical Welder 20-90mm	SFBM



WELDED PIPE SCRAPER

SIZE	CODE
63-160mm	WPS 16063

VALVES

BALL VALVES FEM & FEM

SIZE	CODE
1/4"	MV08
1/2"	BV15
3/4"	BV20
1"	BV25
1 1/4"	BV32
1 1/2"	BV40
2"	BV50
3"	BV80
4"	BV100

BALL VALVES MALE & FEM

SIZE	CODE
1/4"	MVMF08
1/4"	BVMF08
1/2"	BVMF15

LUGGED WAFER

BUTTERFLY VALVES

TYPE	CODE
50mm WAFER	BVFW50
50mm LUGGED	BVFL50
80mm WAFER	BVFW80
80mm LUGGED	BVFL80
100mm WAFER	BVFW100
100mm LUGGED	BVFL100
150mm WAFER	BVFW150
150mm LUGGED	BVFL150

Lugged Valves are Table D
50mm, 80mm & 100mm M16 threads
150mm M20 threads

Heavy duty fittings made from brass and highest quality engineering grade nylon.
Maximum nylon temperature range with load 100deg C.

Nylon pressure ratings @ 20 Deg C.
Up to 50mm 16 bar / 235psi
65mm 12 bar /175psi
80 and 100mm 10 bar /145 psi







REDUCING HEX BUSH

SIZE	NYLON CODE	BRASS CODE
1/4" x 1/8"		BRB 0806
3/8" x 1/4"		BRB 1008
1/2" x 1/4"	PRB 1508	BRB 1508
1/2" x 3/8"	PRB 1510	BRB 1510
3/4" x 1/4"	PRB 2008	BRB 2008
3/4" x 3/8"	PRB 2010	BRB 2010
3/4" x 1/2"	PRB 2015	BRB 2015
1" x 1/2"	PRB 2515	BRB 2515
1" x 3/4"	PRB 2520	BRB 2520
1 1/4" x 1/2"		BRB 3215
1 1/4" x 3/4"	PRB 3220	BRB 3220
1 1/4" x 1"	PRB 3225	BRB 3225
1 1/2" x 1/2"		BRB 4015
1 1/2" x 3/4"	PRB 4020	BRB 4020
1 1/2" x 1"	PRB 4025	BRB 4025
1 1/2" x 1 1/4"	PRB 4032	BRB 4032
2" x 3/4"	PRB 5020	BRB 5020
2" x 1"	PRB 5025	BRB 5025
2" x 1 1/4"	PRB 5032	BRB 5032
2" x 1 1/2"	PRB 5040	BRB 5040
2 1/2" x 2"	PRB 6550	BRB 6550
3" x 1 1/2"	PRB 8040	
3" x 2"	PRB 8050	BRB 8050
3" x 2 1/2"	PRB 8065	BRB 8065
4" x 2"	PRB 10050	BRB 10050
4" x 2 1/2"	PRB 10065	BRB 10065
4" x 3"	PRB 10080	BRB 10080

ELBOW M & F

SIZE	NYLON CODE	BRASS CODE
1/4"		BMFE 08
3/8"		BMFE 10
1/2"	PMFE 15	BMFE 15
3/4"	PMFE 20	BMFE 20
1"	PMFE 25	BMFE 25
1 1/4"	PMFE 32	BMFE 32
1 1/2"	PMFE 40	BMFE 40
2"	PMFE 50	BMFE 50

ELBOW F & F

SIZE	NYLON CODE	BRASS CODE
1/4"		BE 08
3/8"		BE 10
1/2"	PE 15	BE 15
3/4"	PE 20	BE 20
1"	PE 25	BE 25
1 1/4"	PE 32	BE 32
1 1/2"	PE 40	BE 40
2"	PE 50	BE 50
2 1/2"	PE 65	BE 65
3"	PE 80	BE 80
4"	PE 100	BE 100

HEX NIPPLE

SIZE	NYLON CODE	BRASS CODE
1/8"		BHN 06
1/4"	PHN 08	BHN 08
3/8"	PHN 10	BHN 10
1/2"	PHN 15	BHN 15
3/4"	PHN 20	BHN 20
1"	PHN 25	BHN 25
1 1/4"	PHN 32	BHN 32
1 1/2"	PHN 40	BHN 40
2"	PHN 50	BHN 50
2 1/2"	PHN 65	BHN 65
3"	PHN 80	BHN 80
4"	PHN 100	BHN 100







REDUCING HEX NIPPLE

SIZE	NYLON CODE	BRASS CODE
1/4" x 1/8"		BRHN 0806
3/8" x 1/4"		BRHN 1008
1/2" x 1/8"	PRHN 1506	BRHN 1506
1/2" x 1/4"	PRHN 1508	BRHN 1508
1/2" x 3/8"	PRHN 1510	BRHN 1510
3/4" x 1/4"		BRHN 2008
3/4" x 3/8"	PRHN 2010	BRHN 2010
3/4" x 1/2"	PRHN 2015	BRHN 2015
1" x 1/2"	PRHN 2515	BRHN 2515
1" x 3/4"	PRHN 2520	BRHN 2520
1 1/4" x 1/2"		BRHN 3215
1 1/4" x 3/4"	PRHN 3220	BRHN 3220
1 1/4" x 1"	PRHN 3225	BRHN 3225
1 1/2" x 3/4"	PRHN 4020	BRHN 4020
1 1/2" x 1"	PRHN 4025	BRHN 4025
1 1/2" x 1 1/4"	PRHN 4032	BRHN 4032
2" x 3/4"	PRHN 5020	
2" x 1"	PRHN 5025	BRHN 5025
2" x 1 1/4"	PRHN 5032	BRHN 5032
2" x 1 1/2"	PRHN 5040	BRHN 5040
2 1/2" x 2"	PRHN 6550	BRHN 6550
3" x 1 1/2"	PRHN 8040	
3" x 2"	PRHN 8050	BRHN 8050
3" x 2 1/2"	PRHN 8065	BRHN 8065
4" x 2"	PRHN 10050	BRHN 10050
4" x 2 1/2"	PRHN 10065	BRHN 10065
4" x 3"	PRHN 10080	BRHN 10080

TEE

SIZE	NYLON CODE	BRASS CODE
1/4"		BT 08
3/8"		BT 10
1/2"	PT 15	BT 15
3/4"	PT 20	BT 20
1"	PT 25	BT 25
1 1/4"	PT 32	BT 32
1 1/2"	PT 40	BT 40
2"	PT 50	BT 50
2 1/2"	PT 65	BT 65
3"	PT 80	BT 80
4"	PT 100	BT 100

SOCKET

SIZE	NYLON CODE	BRASS CODE
1/8"		BS 06
1/4"		BS 08
3/8"		BS 10
1/2"	PS 15	BS 15
3/4"	PS 20	BS 20
1"	PS 25	BS 25
1 1/4"	PS 32	BS 32
1 1/2"	PS 40	BS 40
2"	PS 50	BS 50
2 1/2"	PS 65	BS 65
3"	PS 80	BS 80
4"	PS 100	BS 100

PLUG

SIZE	NYLON CODE	BRASS CODE
1/8"		BP 06
1/4"		BP 08
3/8"		BP 10
1/2"	PP 15	BP 15
3/4"	PP 20	BP 20
1"	PP 25	BP 25
1 1/4"	PP 32	BP 32
1 1/2''	PP 40	BP 40
2"	PP 50	BP 50
2 1/2''	PP 65	BP 65
3''	PP 80	BP 80
4''	PP 100	BP 100

DOUBLE OUTLET - BRASS MALE INLET

SIZE	CODE
1/4" x 1/4"	BDOMF 08
3/8" x 3/8"	BDOMF 10
1/2" x 1/2"	BDOMF 15

DOUBLE OUTLET - BRASS FEMALE INLET

SIZE	CODE
1/4" x 1/4"	BDO 08
3/8" x 3/8"	BDO 10
1/2" x 1/2"	BDO 15

BRASS LUGGED ELBOW

SIZE	CODE
1/2"	BLE 15

TRIPLE OUTLET - ALLOY

MALE x FEMALE

SIZExLENGTH	CODE
1/2" x 1/4" F x 3	ATO 1508
3/4" x 1/4" F x 3	ATO 2008

MANIFOLDS

With convenient mounting holes

INLET	OUTLET	CODE
2 x 1/2"	2 x 1/4"	LA2
2 x 1/2"	3 x 1/4"	LA3
2 x 1/2"	4 x 1/4"	LA4
2 x 1/2"	5 x 1/4"	LA5
1/4"	5 x 1/4"	AN5

BRASS ALLTHREAD

SIZExLENGTH	CODE
1/2"x300	BAT15
3/4"x300	BAT20
1"x300	BAT25
1-1/4"x300	BAT32
1-1/2"x300	BAT40
2"x300	BAT50

BRASS BARREL UNIONS M&F

SIZE	CODE
1/2"	BBU 15
3/4"	BBU 20
1"	BBU 25
1 1/4"	BBU 32
1 1/2"	BBU 40
2"	BBU 50

F & F also available

LINE STRAINER

SIZE	CODE
1/2"	LS 15
3/4"	LS 20

PORTING BLOCK

SIZE	CODE
1/4"	PB 08
3/8"	PB 10
1/2"	PB 15










HOSE BARBS - BRASS

HOSE SIZE x THREAD	CODE
1/4" x 1/4"	BHB 0808
3/8" x 1/4"	BHB 1008
1/2" x 1/4"	BHB 1208
1/4" x 3/8"	BHB 0810
3/8" x 3/8"	BHB 1010
1/2" x 3/8"	BHB 1210
3/8" x 1/2"	BHB 1015
1/2" x 1/2"	BHB 1215
3/4" x 1/2"	BHB 2015
1/2" x 3/4"	BHB 1220
3/4" x 3/4"	BHB 2020
1" x 3/4"	BHB 2520
3/4" x 1"	BHB 2025
1" x 1"	BHB 2525

FEM HOSE BARBS - BRASS

HOSE x THREAD	CODE
3/8" x 1/4"	FBHB 1008
1/2" x 1/4"	FBHB 1208

BARBED TEE - BRASS

HOSE SIZE	CODE
3/8" x 3/8"	BHT 10
1/2" x 1/2"	BHT 12

BARBED HOSE JOINER-BRASS

HOSE SIZE	CODE
3/8" x 3/8"	BHJ 10
1/2" x 1/2"	BHJ 12

PRESSURE SAFETY VALVE

SIZE	CODE
1/4"	PSV 08
1/2"	PSV 15
3/4"	PSV 20
1"	PSV 25

(Refer to technical department for recommended ratings).

NON-RETURN VALVE

SIZE	CODE
1/4"	NRV 08
1/2"	NRV 15
3/4"	NRV 20
1"	NRV 25
1 1/4"	NRV 32
1 1/2"	NRV 40
2"	NRV 50

ZIP SWIVEL

SIZE	CODE
1/4" M & F	ZS 08

All direction swivelling hose connector for air tools. Reduces operator fatigue. Increases hose life.

PRESSURE GAUGE

SIZE	CODE
40	PG 40
50	PG 50
63	PG 63
80	PG 80
100	PG 100








PURLIN HANGER

CODE	DESCRIPTION
HS 1	Used to hang wire or rod
HS 1A	Used to mount CL pipe clips (below)

BEAM CLAMPS

CODE	DESCRIPTION
HS2U	FOR UP TO 16mm BEAMS
(above)	(For hanging 10mm threaded rod, mounting CL pipe clips etc)
HS 2A	FOR 3mm-7mm BEAMS
HS 2B	FOR 8mm-13mm BEAMS
HS 2C	FOR 14mm-20mm BEAMS
(below)	(For mounting CL pipe clips/cable ties etc)

HEAVY DUTY BEAM CLAMPS

CODE	DESCRIPTION
HS2U HD	For beams up to 20mm

BEAM CLAMP PIPE HANGER

CODE	DESCRIPTION
HS 2A H1	FOR PIPE UP TO 32mm
HS 2B H1	FOR PIPE UP TO 32mm
HS 2C H1	FOR PIPE UP TO 32mm
HS 2A H2	FOR PIPE UP TO 50mm
HS 2B H2	FOR PIPE UP TO 50mm
HS 2C H2	FOR PIPE UP TO 50mm

BEAM STRAP CLAMP

CODE	DESCRIPTION
HS 2A ST3	RETAINS PIPE IN CRANE BEAMS ETC
HS 2B ST3	RETAINS PIPE IN CRANE BEAMS ETC
HS 2C ST3	RETAINS PIPE IN CRANE BEAMS ETC

3=75mm strap, 150mm is available

UNIVERSAL CLAMP

CODE	DESCRIPTION
HS3	SUITS BEAMS UP TO 18mm
	HAS 2 CLIP HEAD ATTACHMENT POSITIONS.
	SHOWN ASSEMBLED, ORDER SEPARATELY

CLIP HEAD TO SUIT HS3

CODE	DESCRIPTION
HS3 20	20mm CLIP HEAD SUIT HS3 CLAMP
HS3 25	25mm CLIP HEAD SUIT HS3 CLAMP
HS3 32	32mm CLIP HEAD SUIT HS3 CLAMP
HS3 40	40mm CLIP HEAD SUIT HS3 CLAMP
HS3 50	50mm CLIP HEAD SUIT HS3 CLAMP
HS3 63	63mm CLIP HEAD SUIT HS3 CLAMP

ROD CLAMP PIPE HANGER

CODE	DESCRIPTION
	5mm ROD PIPE HANGER FOR PIPE
	For use above suspended ceilings
HS5 H1	UP TO 32mm
HS5H2	UP TO 50mm

PURLIN HANGER FOR PIPE

CODE	DESCRIPTION
HS1AH1	FOR PIPE UP TO 32mm
HS1AH2	FOR PIPE UP TO 50mm

Left in Photo.

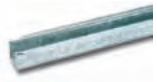
HANGING CLIPS

CODE	DESCRIPTION
H1	FOR PIPE UP TO 32mm
H2	FOR PIPE UP TO 50mm

Right in Photo.

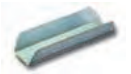
GIRT BLOCK

CODE	DESCRIPTION
HSGB	PLACE IN GIRTS FOR PIPE SUPPORT



CHANNEL

CODE	DESCRIPTION
HS7	CHANNEL FOR PIPE SUPPORTS
	(REQ. 3 HANGERS PER 6M LENGTH)



CHANNEL JOINER

CODE	DESCRIPTION
HS7A	CHANNEL JOINER

MOUNTING PLATES

CODE	DESCRIPTION
HSCMP10	SUITS M10 ROD
HSCMP12	SUITS M12 ROD

ROD PURLIN HANGER

(SUITS THREADED ROD)

CODE	DESCRIPTION
HSP 10	LIGHT DUTY SUITS M10 ROD
HSPH 10	HEAVY DUTY SUITS M10 ROD
HSPH 12	HEAVY DUTY SUITS M12 ROD

THREADED ROD (shown assembled with nut)

CODE	DESCRIPTION
HS ROD10	10mm 3 metre length
HS ROD12	12mm 3 metre length

THREADED ROD NUT

CODE	DESCRIPTION
HSN10	10mm NUT
HSN12	12mm NUT

BOLTED PIPE CLIP TO SUIT ROD

CODE	DESCRIPTION
HSBC 20M10	SUIT 20mm PIPE & 10mm ROD
HSBC 25M10	SUIT 25mm PIPE & 10mm ROD
HSBC 32M10	SUIT 32mm PIPE & 10mm ROD
HSBC 40M10	SUIT 40mm PIPE & 10mm ROD
HSBC 50M10	SUIT 50mm PIPE & 10mm ROD
HSBC 63M10	SUIT 63mm PIPE & 10mm ROD
HSBC 90M10	SUIT 90mm PIPE & 10mm ROD
HSBC 110M10	SUIT 110mm PIPE & 10mm ROD
HSBC 90M12	SUIT 90mm PIPE & 12mm ROD
HSBC 110M12	SUIT 110mm PIPE&12mm ROD
HSBC 160M12	SUIT 160mm PIPE&12mm ROD

PEAR CLIP TO SUIT ROD

CODE	DESCRIPTION
HSPC 20M10	SUIT 20mm PIPE & 10mm ROD
HSPC 25M10	SUIT 25mm PIPE & 10mm ROD
HSPC 32M10	SUIT 32mm PIPE & 10mm ROD
HSPC 40M10	SUIT 40mm PIPE & 10mm ROD
HSPC 50M10	SUIT 50mm PIPE & 10mm ROD
HSPC 63M12	SUIT 63mm PIPE & 12mm ROD
HSPC 90M12	SUIT 90mm PIPE & 12mm ROD
HSPC 110M12	SUIT 110mm PIPE&12mm ROD
HSPC 160M12	SUIT 160mm PIPE&12mm ROD

HEAVY DUTY STRUT SYSTEM
6m length

CODE	SIZE
HS STRUT 20	21x41x1.6
HS STRUT 40	41x41x1.6

HEAVY DUTY STRUT BRACKETS

CODE	DESCRIPTION
HS STRUT J	JOINER
HS STRUT BP	BASE PLATE
HS STRUT A	ANGLE BKT
HS STRUT AB	BRACED BKT

SPRING STRUT NUTS

CODE	SIZE
HS SN 10S	M10
HS SN 10L	M10
HS SN 12S	M12
HS SN 12L	M12
HS SN 10	M10 no spring

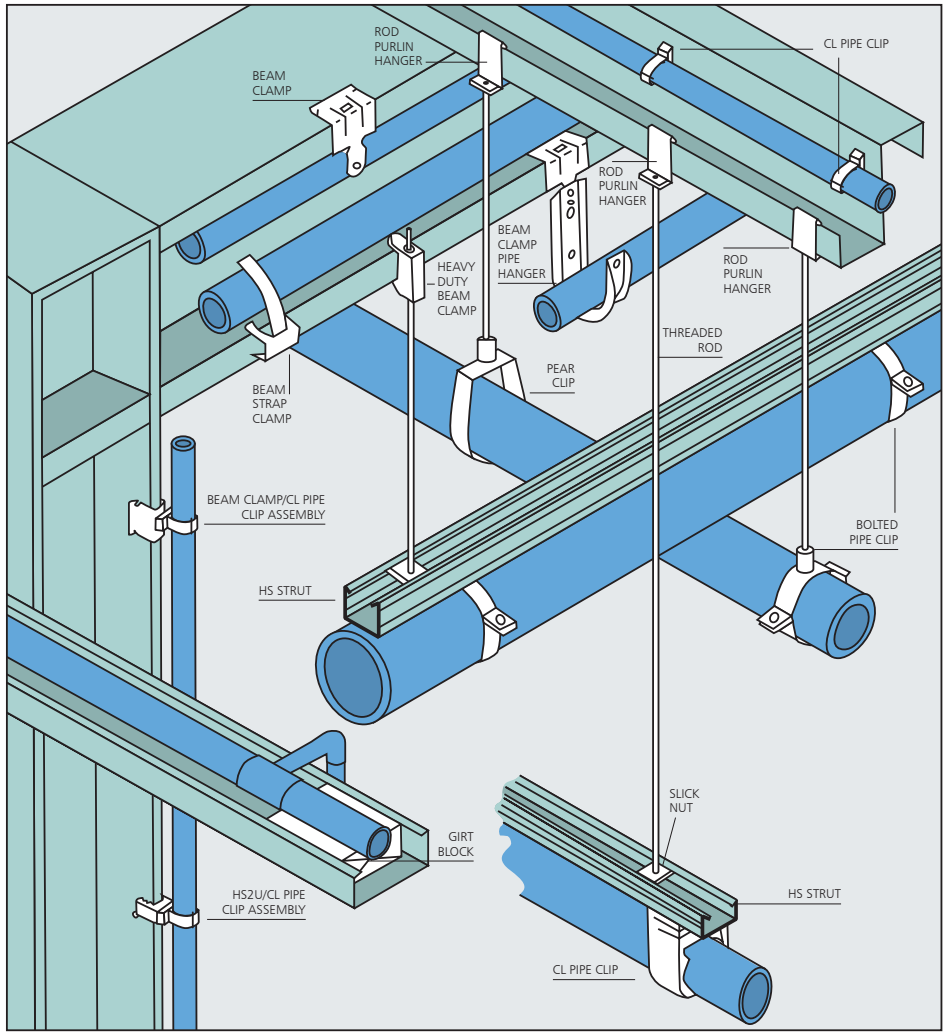
Short spring suits HS Strut 20

Long spring suits HS Strut 40

SLICK NUT

CODE	SIZE
HS SLN	M10

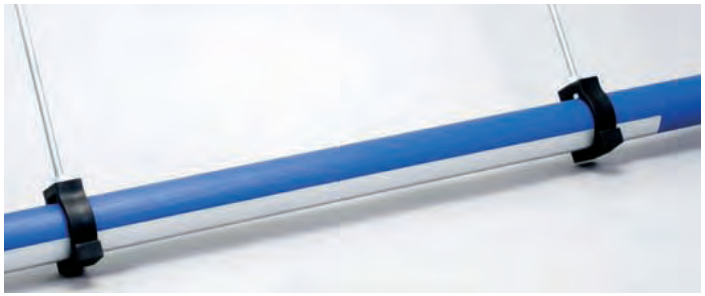
MAXAIR PIPE SUPPORT SYSTEMS



CONTINUOUS SUPPORT CHANNEL

Used to increase the spacing between clips and is particularly useful for spanning between unistrut, pipe racks, etc.
2 clips per length.

CODE	SIZE	LENGTH
HSS20	20	3m
HSS25	25	3m
HSS32	32	3m
HSS40	40	3m
HSS50	50	3m
HSS63	63	3m
HSS90	90	3m
HSS110	110	3m



FASTENERS

SCREWS BUTTON HEAD

CODE	SIZE
F1	8G x 25
F2	8G x 32
F3	12G x 40

SCREWS HEX HEAD

CODE	SIZE
F5	12G x 45 TYPE17 TIMBER
F6	12G x 45 STEEL
F7	12G x 75 STEEL
F8*	12G x 32
F9*	12G x 50

*LONG DRILL POINT FOR HEAVY STEEL

NYLON ANCHORS

CODE	SIZE
F13	6.5 x 40
F14	6.5 x 50
F15	6.5 x 75

REMOVABLE HEAVY DUTY

F17	5.0 x 50
F18	6.0 x 50
F19	6.0 x 70

DYNA BOLTS

CODE	SIZE
F23	6.5 x 40
F24	10 x 50
F25	10 x 60
F26	12 x 60
F27	16 x 65

DROP IN ANCHOR

CODE	SIZE
F28	10mm
F29	12mm

PLASTERMATE

CODE
F30

NYLON CABLE TIES

CODE	SIZE
CT1	190 x 4.8
CT2	300 x 4.8
CT3	370 x 4.8
CT4	380 x 7.6

MAXAIR ACCESSORIES

Typical use

MOUNTING BRACKETS

CODE	THREAD
TFWM15	1/2"
TFWM20	3/4"

Designed to rigidly mount TF or EF fittings suits 20, 25, & 32mm Pipe fittings.

CEILING PENETRATION FLANGE

CODE	SIZE
CPF14	14mm
CPF19	19mm
CPF25	25mm
CPF32	32mm
CPF38	38mm
CPF48	48mm

Suitable for Suspended & Plaster ceilings

TEFLON TAPE

CODE
TS 1

Thread Sealing.
Only PTFE (Teflon) tape is recommended for all fittings with plastic threads

SILICONE LUBRICANT

CODE	DESCRIPTION
SL	500ml AEROSOL

Compression fitting lubricating spray.
Note: Do not use in spray painting application. See installation instructions Page 24.

ANTI VIBRATION PADS

CODE
AVR-S

AVR-S Anti-vibration General Purpose

Isolation Pads for noise and vibration isolation. Spring mounts also available for specific applications.

SAFETY SIGNS

REFER TO TECHNICAL DEPARTMENT FOR COMPLETE SIGN RANGE

POLYURETHANE COIL & TUBE, AIR HOSE & HOSE REELS

POLYURETHANE COILS & TUBE

•Excellent flexibility even at low temperatures •Lightweight •Oil & abrasion resistant •Coils have excellent 'memory' & store neatly •Small coil Diameter stops tangling •Straight end sections

POLYURETHANE TUBING

Superior flexibility with excellent abrasion resistance

CODE	SIZE
TE04	4mm
TE06	6mm
TE08	8mm
TE10	10mm
TE12	12mm
TE16	16mm

POLYURETHANE COILS

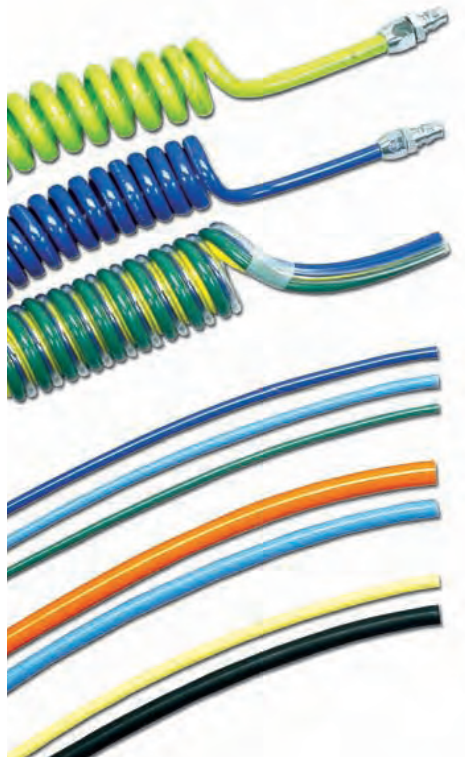
SIZES:

OD	ID
8	5
10	6.5
12	8
16	11

Standard lengths:
2m, 4m, 6m, 8m, 10m, 12m

MULTI-BORE POLYURETHANE TUBING IN STRAIGHT AND SPIRAL

High-Tech Bonded Tubing
Available in many configurations. Depending on tube sizing more than 10 tubes can be bonded. Include your electrical requirements.



BRAIDED POLYURETHANE STRAIGHT HOSE

CODE	OD	ID
EBH-6.5 x 10	10	6.5
EBH-8 x 12	12	8
EBH-11 x 16	16	11

ANTI-SPATTER POLYURETHANE HOSE

Three ranges of anti-spatter polyurethane hose & tube are available for welding applications, and come in various sizes to suit most requirements.

SOFT-PUR BRAIDED STRAIGHT HOSE

Extra flexible

CODE	OD	ID
SH-6.5	10.5	6.5
SH-8	12.5	8
SH-11	16	11

Polyethylene, Nylon, Teflon, and other specialist tubing also available

HOSE CLAMPS

Bolted Clamp | Stainless steel Worm Drive | 2-Ear Clamps

AIR HOSE

Quality PVC Air Hose.
Bore Sizes 10mm, 12mm, 20mm, etc. (Available up to 100mm)
Length, 20, 30, 100 metres, etc.

HOSE REELS

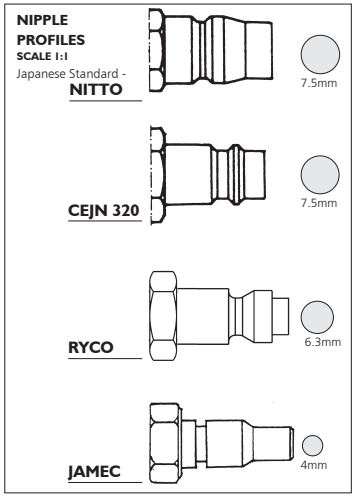
A wide range of Hose Reels available including •Compact Units, •Reels to suit Polyurethane Hose, •Reels to suit Air Hose (as pictured), •Reels for other applications

QUICK CONNECT COUPLINGS

	COUPLING	FLOW RATE	MALE BSP			FEMALE BSP			HOSE TAILS TO SUIT HOSE			POLYURETHANE HOSE				ONE TOUCH CONNECT	FEATURES
			1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	8mm	10mm	12mm	5 x 8	6.5 x 10	8 x 12	11 x 16		
A	CEJN 315	69 CFM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Safety Purge Plugs also available
B	CEJN 320	74 CFM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Safety Purge Plugs also available
C	CEJN 342 BREATHING AIR	69 CFM	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	✓	Safety twin touch disconnection for breathing air
D	HI-CUPLA ACE PLASTIC	49 CFM	✓	✓	X	X	X	X	✓	✓	X	✓	✓	✓	X	✓	Lockable, light weight
E	JAMEC 310	28 CFM	✓	✓	✓	✓	✓	✓	X	✓	✓	X	X	X	X	✓	
F	JOPLA PLASTIC	46 CFM	✓	✓	✓	✓	X	X	✓	✓	✓	✓	✓	✓	X	✓	Lockable, light weight
G	NITTO HI-CUPLA 200	57 CFM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Locking models available
H	OETIKER SWING SAFETY	103 CFM	✓	✓	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	✓	Built in lock and safety purge, full bore flow

✓ = Available X = Not Available

NIPPLE PROFILES
SCALE 1:1
Japanese Standard -



NITTO TWIST PLUG
Twisting, kinking and bending of hoses are prevented.
Various models available

FREE-ANGLE FITTING
Unique design 360° rotation fitting.
Various models available.

CLAW COUPLINGS

HOSE TAIL COUPLING

CODE	TO SUIT HOSE
CCHT20	3/4" (20mm)
CCHT25	1" (25mm)

MALE CLAW COUPLING

CODE	TO SUIT THREAD
CCMT20	3/4" (20mm)
CCMT25	1" (25mm)

FEMALE CLAW COUPLING

CODE	TO SUIT THREAD
CCFT20	3/4" (20mm)
CCFT25	1" (25mm)

AIR TREATMENT

Compressed Air contains impurities such as dust and dirt (approximately 80% of these pass through the compressor inlet filter), and water vapour is also present as humidity, concentrated eight times as compared to the air we breath.

These impurities combine with traces of compressor oil to form an abrasive sludge which wears and corrodes bearings and seals in pneumatic tools and equipment. For this reason it is imperative to include **Air Treatment** in your system which will protect your equipment. We can assess and advise you as to your particular requirements, please refer to technical department.

PRE-FILTERS, FINAL-FILTERS AND ACTIVATED CARBON FILTERS (BREATHING AIR)
We offer a large range of multi-layer coalescing filters to remove particles, oil & water mists.

REFRIGERANT DRYERS
Dryers cool compressed air to approx 3˚ dew point and remove condensate before entering pipe system. They must be sized correctly and be rated for Australian conditions.

DESSICANT DRYERS
Twin tower Dessicant Dryers remove condensate and give very low dew-points (water vapour). They are mostly used in specialist or medical applications.
Single tower Dessicant Dryers are suitable for general applications. Please refer to Technical Department.

OIL / WATER SEPARATORS
Treatment of condensate to meet legal discharge requirements.

FILTER REGULATOR

REGULATOR LURICATOR
Full range of Regulators, Filter Regulators and FRL's available. Auto drain models also available.

AUTOMATIC DRAINS
Full range of Automatic Condensate Drains available including bottom entry type.

NIL AIR LOSS AUTOMATIC DRAINS
Electronic sensor drains. 240V.

BLOWGUNS

BLOW GUNS
Standard Blow Guns, Long Nozzle, Safety Tip, Rubber Tip, Flat Nozzle, Blow / Vacuum Venturi Effect, Reduced Pressure Safety Styles.

A full range of
Push-in Fittings.

A wide range of Push-in Fittings are available to suit flexible tubing in 4mm, 6mm, 8mm, 10mm, 12mm, & 16mm.
Thread sizes: 1/8", 1/4", 3/8", & 1/2" BSP.
Some common fittings are pictured, the range also includes multiple manifold outlets, isolating valve fittings, speed controllers, rotating fittings, check valves and more.
Phone for your specific requirements.

MAXAIR SYSTEM DESIGN GUIDELINES

RECOMMENDED INSTALLATION PRINCIPLES

THERMAL EXPANSION AND CONTRACTION PIPE CLIPS / PIPING LAYOUT

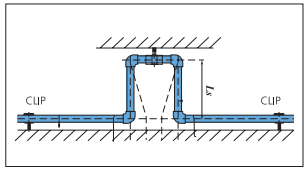
The coefficient of the thermal expansion and contraction of Maxair PE100 pipe may be taken as 0.18mm per metre per Deg C. If pipework is to be subjected to thermal temperature change, expansion and contraction needs to be considered for during installation. Generally movement can be absorbed on changes of direction, elbows, etc. but on longer lengths the recommended installation principles as set out below should be adhered to. This movement is minimised if areas in which pipework is installed are heated or cooled and virtually eliminated in constant temperature areas.

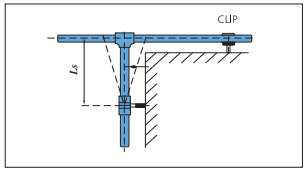
EXPANSION LOOPS

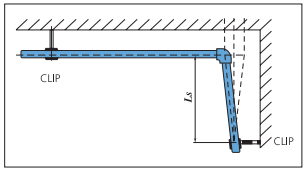
Expansion loops are recommended at intervals of approx. 30-40m on long runs. Suggested leg lengths are as per table below. It is general practice for loops up to AIR 63 to span between purlins. Space constraints may also need to be considered. Please contact our technical department for accurate sizing if required.

PRE STRESSING

Pipework can be prestressed, and particular note should be made of this when installation is carried out in cold conditions.

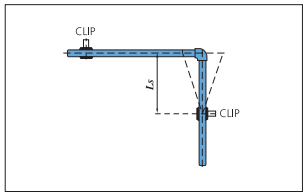






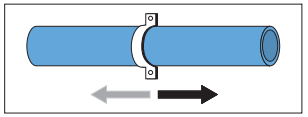
Suggested L s Length (Metres)

20	0.5
25	0.6
32	0.7
40	0.9
50	1.0
63	1.2
90	1.8
110	2.0
160	2.4



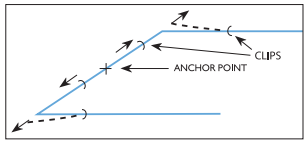
PIPE CLIPS

Free axial movement of pipework should be allowed with any form of support. Pipework should be able to move on elbows, tees, etc.

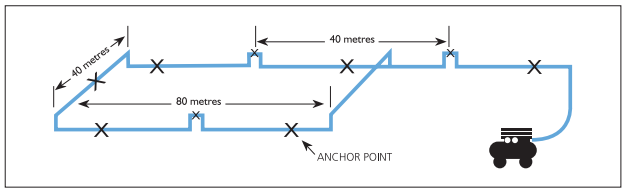


ANCHOR POINTS

Anchor points are clips which don't allow free axial movement. Anchor points can be used as shown to evenly spread the effects of expansion and contraction.



Below: Working example of Ring Main showing typical expansion loops and anchor point positions for this schematic.



OPERATING PARAMETERS OF MAXAIR PE100	OPERATING TEMP °C	DESIGN LIFE YEARS	PERMISSIBLE WORKING PRESSURE		
			BAR	KPA	PSI
	- 20° TO 20°	50	16	1600	235
	30°	50	14.1	1410	205
	40°	50	12	1200	175
	50°	50	10.2	1020	150
	60°	50	8.8	880	130
		ABOVE RATINGS HAVE AN ADDITIONAL SAFETY FACTOR OF 2:1			
	Fluid at 20° C	50	25	2500	360

SHORT TERM TEMPERATURE RISES

Temperatures quoted relate to constant temperature over a period of 50 years, rather than short term peak temperatures. Maxair PE100 can safely handle short term peaks in compressed air temperature up to 95deg C. Circumstances vary and each high temperature application should be checked with your distributor.

SAFETY FACTOR

At all rated pressures for compressed air as above Maxair PE100 is manufactured with a safety factor of 2. On a typical installation this gives an effective safety factor of 4 at 800 kpa/20deg C /50 years.

GUARANTEE

Maxair is manufactured in accordance to AS 4130/AS 4131 and is accordingly guaranteed for 50 years provided recommended design, installation and operating practices are adopted. As established from long term testing, Maxair may be operated continuously under pressure for up to 200 years at 20deg C.

CONDENSATE DRAINAGE

Ideally, condensate should be removed as soon as possible in the system.
A suitably sized compressed air dryer after the Air Receiver is the recommended method for removing condensate from the air supply. If high, short term peaks of dry air are required, then the dryer would be better installed prior to the Receiver. The good thermal characteristics of Maxair are a further advantage.
The system should be designed to minimise or eliminate harmful condensate from being discharged into air tools and equipment when dryers are not fitted.
Various methods are suitable for this purpose.
- Sloping of horizontal pipe at a slight gradient to strategically positioned drainleg.
- Outlet droppers to come off the top of the pipework to avoid precipitated condensate being discharged in the airstream.
- In most instances however the recommended method is to install the dropper from the bottom of the branch or mainline with a short extra length of pipe extending below the outlet with a drain valve (see schematic illustration P2).

UNDERGROUND PIPEWORK

Maxair pipe is ideal for underground installation with its high strength characteristics and ability to absorb ground movement. It is recommended to lay pipework in sand, grade and install drain valves in strategic positions.

HAZARDOUS AREAS

A. Corrosive chemicals – Maxair has excellent resistance to a broad range of chemicals and is ideal for use in many areas where corrosive liquids or atmosphere may contact the pipe. Compression fittings come standard in polypropylene construction with O-Rings of nitrile rubber and Split Grip Rings in Polyacetal. The Nitrile gives excellent resistance to oils in the compressed air. For aggressive chemical applications CPVC Split Rings and O-Rings in EPDM or Viton are available. Fusion welded fittings provide a further degree of safety in these areas. User should verify compatibility of components with their application. Extensive compatibility charts are available. Resistance to specific chemicals should be checked with Technical Department.

B. Explosive or ignitable atmosphere. Compressed air can carry static charges which may accumulate. The user/customer/purchaser is responsible to identify any potential hazardous areas and to take necessary measures or precautions for complete safety. Information on protective measures is available with advice on your specific application.

HEAT SOURCES AND EXTERIOR PIPEWORK

Maxair is suitable for outdoor installation
Industry best practice of shielding equipment and pipework from direct heat sources should be adopted to prevent excessive heat buildup. In the event that pipe is exposed to direct sunlight a surface layer forms over time creating a barrier which impedes further U.V. effects. As with all Polymer pipe systems exposed to direct U.V., there maybe some reduction of impact resistance over time however longevity and pressure rating of Maxair is not affected.

SOCKET FUSION WELDED FITTINGS

Pipe and fittings are welded by means of socket fusion according to AS2033-1980. Fittings comply with DIN16963. These specially engineered fittings, in dimensions and tolerances to co-ordinate with pipe, are heated simultaneously with pipe then joined to give an extremely strong weld of high pressure capability, fusing pipe and fitting into one integral piece. Made in Europe from PE100 expressly for compressed air pipe systems.

ELECTRO FUSION WELDED FITTINGS

Fittings for electro fusion comply with AS4129 and carry a standards mark licence under a Quality Assurance System in accordance with ISO 9002. The fittings incorporate a resistor in one of the terminals which is specific to that fitting. The automatic control box reads the resistor and sets and welds the correct time, avoiding operator error. Fittings are also labelled for barcode reading and manual setting times. Rising melt indicators confirm successful completion of weld.

COMPRESSION O-RING TYPE FITTINGS

Compression fittings manufactured under ISO 9002 Quality System and have Standards Mark Licence No 2018-AS4129.

Air seal is provided by a heavy duty O-Ring and pipe is securely held by split grip ring and nut. Extensive research and experience has confirmed our confidence in the range of fittings offered being of the highest quality and reliability. These fittings are approved by the manufacturer for compressed air applications and, whilst they are conservatively rated at PN16 (16 bar)/20degC/50 years for other applications, with a view to an additional safety factor for compressed air, we recommend these fittings for installations subject to conditions not exceeding 10 bar pressure at constant average temperature of 40degC.

The majority of installations would be expected to average less than these conditions. For conditions above these, fusion welded fittings should be considered.

PIPE WEIGHTS COMPARISON	MAXAIR		GALVANISED MILD STEEL		COPPER	
	SIZE	WEIGHT Kg/m	SIZE	WEIGHT Kg/m	SIZE	WEIGHT Kg/m
	AIR 20	0.15	1/2"	1.45	1/2"	0.35
	AIR 25	0.24	3/4"	1.90	3/4"	0. 70
	AIR 32	0.40	1"	2.97	1"	1.09
	AIR 40	0.59	1 1/4"	3.34	1 1/4"	1.38
	AIR 50	0.92	1 1/2"	4.43	1 1/2"	1.67
	AIR 63	1.45	2"	6.17	2"	2.25
	AIR 90	3.04	3"	10. 1	3 "	4. 23
	AIR 110	4.51	4"	14.4	4"	5.68
	AIR 160	9.17	6"	23.33	6"	8.67

MAXAIR INSTALLATION INSTRUCTIONS

PROCEDURE: 1. INSTALL CLIPS & PIPE SUPPORT SYSTEM. 2. FOR SOCKET FUSION PRE-MANUFACTURE MAIN LINES ON GROUND.

Compression Fittings AIR20 to AIR63

1. Cut pipe to length with appropriate cutter (PC...) for a swarf-free finish.

2. Chamfer with appropriate chamfering tool. (CHAM...) This may not be necessary for AIR20, 25, 32.

3. Remove nut and conical grip ring from fitting and mount on pipe in the same order with the large end of the grip ring facing fitting. Lubricate, see notes*, **.

4. Insert the pipe into fitting with a twisting motion until it passes through the "0" ring and meets the internal shoulder. Ensure that grip ring is touching the fitting.

5. Screw and tighten the nut onto the fitting firmly by hand. The larger pipe sizes 40mm & upward will need tightening with the appropriate wrench (NW1) however, do not use excessive torque.

Compression Fittings AIR90 to AIR110

1. Cut pipe to length and chamfer.
2, Remove nut, conical grip ring, bushing and "0" ring and mount on pipe in the same order leaving out grip ring.
3. Lubricate pipe end and inside of fitting.(See note below**)

4. Insert pipe into the fitting until it meets the internal shoulder.

5. Bring up the "0" ring and bushing and tighten nut until they are fully in place.

6. Unscrew nut, open grip ring and put on pipe with the large end touching the bushing.

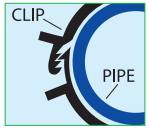
7. Tighten nut with the appropriate wrench (NW2) taking care not to use excessive force.

*Fitting may be supplied with a tapered seal instead of O-Ring, -in this case nut need not be removed, - simply chamfer pipe, lubricate, fully insert, and tighten.

** Lubricate with silicone spray, soapy water or vaseline except on specialist applications. ie: powder coating, spray painting, breathing & quality air, etc. DO NOT use penetrating fluids such as WD40, 5-56, Penetrene etc.

CL Pipe Clips Installation

1. Mount pipe clip using appropriate fastener. In vertical mounting situations (horizontal pipework) ensure female ratchet is uppermost as shown below.



2. Pull clip apart and put the pipe in.

3. Press the pipe into clip towards the clip base and set to appropriate setting.

To remove pipe from clip push the 2 bands sideways in opposite directions to disengage.

Pipe Support spacings

	HORIZONTAL SUPPORT SPACING	
PIPE SIZE	UP TO 25˚C	UP TO 50˚ C
AIR20	**700**	600
AIR25	**900**	750
AIR32	**1200**	900
AIR40	**1400**	1100
AIR50	**1600**	1200
AIR63	**1800**	1400
AIR90	**2000**	1600
AIR110	**2400**	1800
AIR160	**2700**	2100

Spacings may need to be altered for various ambient temperatures encountered. Refer to Technical Department. For vertical fixing, the spacings may be increased approximately 20%. Spacings may also be increased using Continuous support Channel, see P17. Spacings will need to be decreased if pipework is conveying fluids.

MAXAIR WELDING GUIDELINES

3. INSTALL PIPE WORK INTO CLIPS. 4. INSTALL BRANCHES & OUTLETS. 5. TEST AND COMMISSION PIPE SYSTEM.

Electro Fusion Welding – Recommended for AIR90 to AIR160

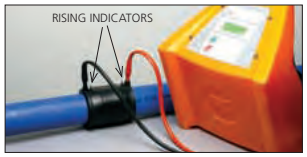
Available in smaller sizes if required

1. Cut pipe to length using appropriate cutters.
2. Use scraper WPS 16063 to remove oxide layer from pipe for full fitting insertion length to approximate depth of 0.3mm.

3. Wipe surfaces to be welded with Welding Wipes (EFPW) to remove dust etc, and allow cleaner to evaporate.

4. Assemble pipe and fitting making sure pipe is FULLY inserted. Clamps may be attached to stabilise joint during welding.

5. Connect welder leads onto fitting terminals. Set correct weld time (marked on each fitting). Follow instructions for particular welder. Press start for weld cycle to commence. Allow to cool, time is marked on each fitting.



6. Rising melt indicators confirm successful completion of weld. When Weld cycle is completed, allow assembly to cool without any movement or strain.

WELDING GUIDELINES.

Socket Fusion and Electro Fusion welding is a quick and simple operation for a joint of the highest integrity.

SOCKET FUSION

Heating element socket fusion to welding guideline AS 2033-1980. Weld surfaces must be clean and dry. Welding machine must be up to temperature 230° - 250° C before commencing. Avoid cold windy conditions. Do not realign joint after adjusting time, see table below. Do not overscrape pipe - interference fit must be retained. Do not twist pipe into fitting when fusing.

Socket Fusion Welding Time/Temperature Chart

Pipe OD mm	Pre-. Heating Sec.	Adjusting Sec.	Cooling Min
20	5	4	2
25	7	4	2
32	8	6	4
40	12	6	4
50	18	6	4
63	24	8	6
90	40	8	6
110	50	10	8

ELECTRO FUSION

Fittings for electro fusion comply with AS4129.
Automatic control box reads resistor and sets and welds the correct time, fittings also labelled for manual setting times. Weld surfaces must be clean and dry.
Do not overscrape pipe.
Use correct scrapers.
Do not use emery paper or metal files.
IMPORTANT: Do not allow movement in the joint until cooling period has been completed. In some cases clamps may be required. Ensure continuous electricity supply during weld cycle.

Socket fusion Welding Instructions AIR20 to AIR63

Socket Fusion Bench Machine as pictured on p13 for up to AIR90.

1. Turn on Welder SFHM. Do not attempt welding unless tool is up to temperature (250°C). The light will flash on/off with thermostat control when temp. is correct.
2. Cut pipe to length required with (PC...) cutters for a swarf free finish.

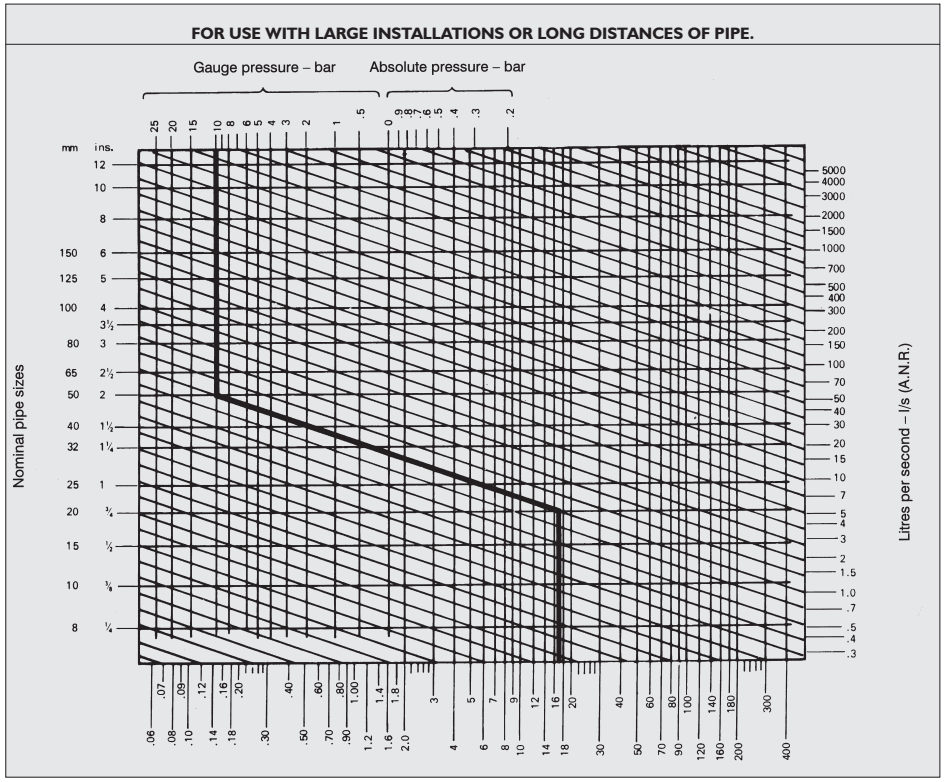
3. Clean pipe & fitting. Use scraper (WPS...) to remove oxide layer from pipe and ensure correct tolerance. Welding wipes (EFPW) may be used if required.

4. Simultaneously insert pipe and fitting onto socket and spigot to full depth without twisting. Hold for correct time as per table 'Pre-heating seconds' (left) .

5. Remove pipe & fitting from heating element, immediately insert pipe into fitting without twisting.

6. Check alignment within 'adjusting seconds' as per table (left).
During cooling avoid mechanical strain or movement on welded joint.

COMPRESSED AIR FLOW CHART



Note: A.N.R. (Atmosphere Normale de Reference) Standard Reference Atmosphere ISO R554 - 20degC 65% Relative Humidity 1013 mbar

Conversion: 1mbar=0.1 kpa
1l/s=2.1191cfm

How to use the compressed air flow chart.

Four quantities are involved in the use of this chart, these being air pressure, rate of flow, pipe size and pressure drop. Any one of these can be determined providing the remaining three are known.

PROBLEM 1:
Air initially at 10 bar is being transmitted at a rate of 60 l/s free air through 20mm pipe. What will be the pressure drop due to friction through 30 metres of pipe?

SOLUTION:
(This example is plotted on the chart) From the point representing 10 bar at the top of the chart proceed down vertically to intersect with the horizontal line representing 60 l/s on the right hand scale. Proceed diagonally downwards, parallel to the guide lines to intersect the horizontal line representing 20mm on the left hand side scale. From this point proceed vertically to the pressure drop scale on the bottom of the chart and take the reading. The pressure drop is found to be approximately 17 mbar per metre of pipe or 510 mbar (0.5 bar) per 30 metres of pipe.

PROBLEM 2:
10 l/s of free air is required at a pressure of 4 bar with a maximum allowable pressure drop of 140 mbar per 30 metres of pipe. What would be the recommended pipe size for this application?

SOLUTION:
From the point representing 4 bar on the top axis of the chart proceed down vertically to intersect the horizontal line representing 10 l/s on the right hand scale. Proceed diagonally, parallel to the guide lines to intersect the vertical line from the bottom scale representing the allowable pressure drop of 140 mbar per 30 metres of pipe (Read 140/30 = 4.5). From this intersection point proceed horizontally to the left hand side of the chart. The point falls between 10mm and 15mm pipe sizes. The correct selection therefore, is 15mm pipe.

BREATHING AIR

Breathing and Medical applications
Maxair is suitable for breathing air and medical applications, provided Technical Department recommendations are adopted. It is the user's responsibility to provide and maintain supply air at a suitable level of purity for these applications.

STORAGE

Storage and transport
Pipe should be stored and transported straight and true.

Shipping Weights.

AIR20	0.9 Kg / 6m length
AIR25	1.4 Kg / 6m length
AIR32	2.4 Kg / 6m length
AIR40	3.5 Kg / 6m length
AIR50	5.5 Kg / 6m length
AIR63	8.7 Kg / 6m length
AIR90	18 Kg / 6m length
AIR110	27 Kg / 6m length
AIR160	55 kg / 6m length

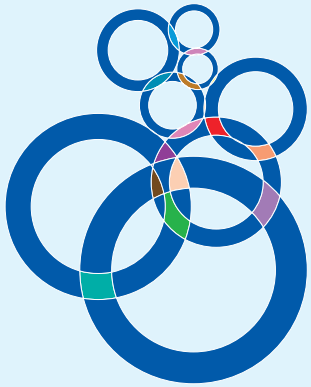
OTHER USES

Suitability for other applications.
Products in this technical manual are also suitable for:

- Chilled Water
- Warm Water
- High pressure Fluid to 25 bar
- Inert Gasses
- Chemical Piping
- Vacuum Piping.

Please refer to Technical Department for details.

TECHNICAL SPECIFICATIONS FOR MAXAIR PE100 SYSTEMS



1.1 The Compressed Air Reticulation Pipe shall be of non-metallic, blue in colour, corrosion free, High Density Polyethylene (HDPE) PE100 conforming to AS/NZS 4130/4131 and be made to PN 25 under an accredited AS 3902 Quality Control System and commercially known as MAXAIR PE100.

1.2 The pipe shall be PN 25 rated at 16 Bar / 20degC / 50 year design life and 8.8 Bar / 60degC / 50 year with an applied safety factor of 2:1.

2.1 All fittings shall be Socket Fusion, Electro Fusion or Compression style fittings which comply with Australian Standards as listed below and commercially known as MAXAIR.

2.2 Socket Fusion fittings shall be Blue PE100 type made to DIN 16963 which shall be welded to AS 2033.

2.3 Electro Fusion fittings shall comply with AS/NZS 4129 and carry a Standards Mark Licence under Quality Assurance System in accordance with ISO 9002.

2.4 Compression fittings shall be either 'O' Ring or tapered seal to comply with AS/NZS 4129 and carry a Standards Mark Licence No. 2018 in accordance with ISO 9002.

3.1 Fixing of pipe shall be of a type and spacing approved for use on HDPE PE100 as per MAXAIR Technical Manual.

TRADING TERMS

Whilst due care and revision has been taken in preparation of this Manual, the Company takes no liability for accuracy of information contained herein.

As part of a process of continual improvement, the Company reserves the right to upgrade or modify components from the description in this manual at any time without notice.

All Sales are subject to the Company's Terms and Conditions of Sale.

E & OE.