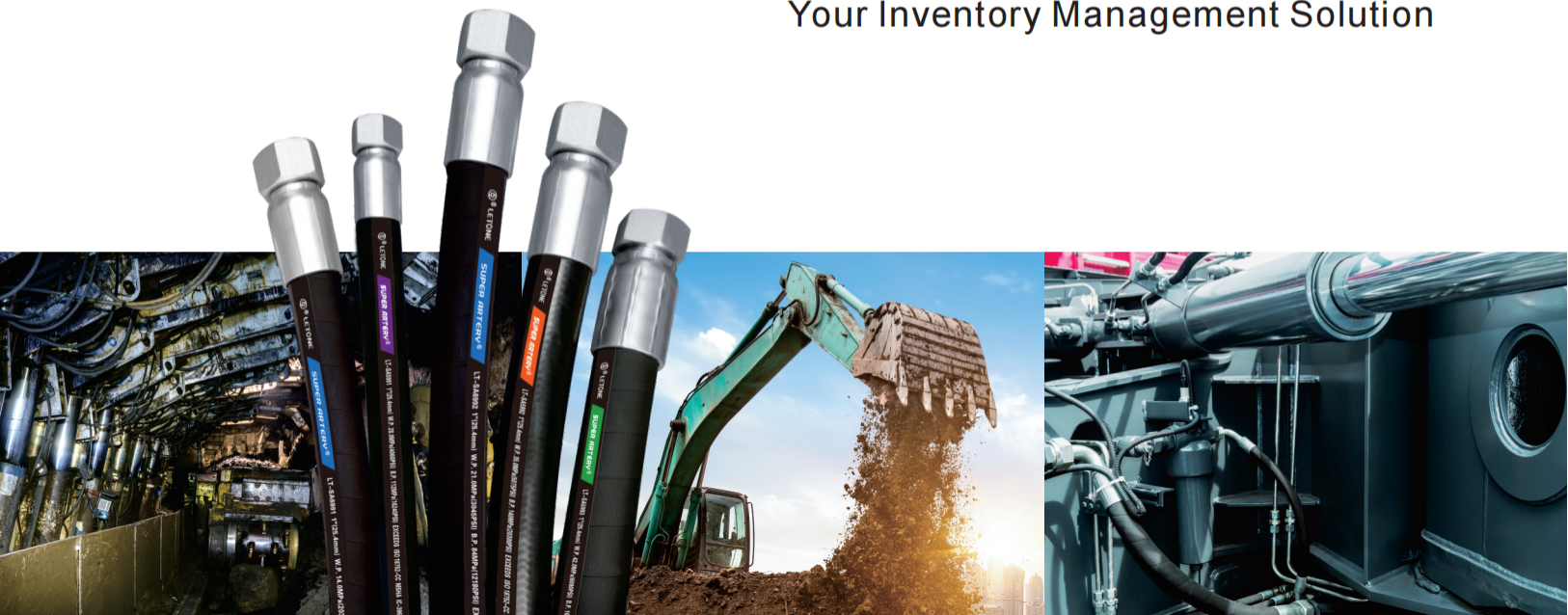


Super Artery Low Bend Series

Your Inventory Management Solution



FIVE HOSES | THREE FITTING SERIES | COVER THE GENERAL INDUSTRIAL USE

Characteristics

Low Bend Radius: The average bend radius of the Super Artery Low Bend series is 34% lower than the ISO 18752 compact hose standard, which is easy to operate and save space.

High Pressure: The pressure of the Super Artery Low Bend series is complying with/exceeding ISO 18752 AC/BC/CC/DC standards.

Long Service Life: The impulse of the Super Artery Low Bend series exceeds 1,000,000 cycles, highly extended the hose service life.

Comparison of Super Artery Low Bend Series and ISO 18752 Standard				
Grade	ISO18752 Temperature (°C)	ISO18752 Impulse Pressure (% of MWPb)	ISO 18752 Minimum Number of Cycles	Super Artery Low Bend Series Minimum Impulse Performance (cycles)
AC	100°C (212°F)	133%	200,000	1,000,000
BC	100°C (212°F)	133%	500,000	1,000,000
CC	120°C (250°F)	133%	500,000	1,000,000
DC	120°C (250°F)	133%	1,000,000	1,000,000

Selection

Three points make the Super Artery Low Bend series *friendly to users*:

1. Clear Classification of Hose Pressure

Super Artery Low Bend Series Hose Pressure Selection Table (MPa)										
Hose I.D.	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
LTSA6991	—	—	—	18	15	14	14	14	9	8
LTSA6992	25	25	21	25	25	25	21	21	17.5	17.5
LTSA5991	—	—	—	28	28	28	28	28	28	28
LTSA5992	40	35	35	35	35	35	35	35	35	35
LTSA5993	45	45	45	45	45	42	42	42	42	42

2. Three Types of Fittings for All Hoses

Super Artery Low Bend Series Fitting Selection Table										
Hose I.D.	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
LTSA6991	—	—	—	31	31	31	31	31	31	31
LTSA6992	31	31	31	31	31	31	31	31	31	31
LTSA5991	—	—	—	31	31	41	41	41	41	41
LTSA5992	31	31	31	41	41	41	41	41	61	61
LTSA5993	41	41	41	41	41	41	41	61	61	61

Note: 31 for 31 hose fitting series; 41 for 41 hose fitting series; 61 for 61 hose fitting series.

3. Performance of Letone Hose Fittings

One-Piece No-Skive Fittings (31&41 fitting series)

- 1) Eliminating the hose failure by skiving too long or too short.
- 2) Saving manpower and easy to operate.
- 3) One fitting suitable for a variety of hoses.
- 4) Neat appearance after crimping.

Swaged Hose Fittings (61 fitting series)

- 1) More flexible, richer choices of fittings and ferrules.
- 2) Fittings and ferrules can be purchased separately according to the existing inventory.

It is infinitely close to the sealing goal of zero leakage by using Letone one-piece no-skive and swaged hose fittings with its independent R&D HNBR seals.

Customized Hose Cover

Based on EN853: 2015, the outer layer of the Super Artery Low Bend series is subjected to a reciprocating wear test at a frequency of 1.25HZ under 25N gravity according to the method specified in the ISO6945: 1991 inspection standard. Comparing the weight loss of the material under 2,000 cycles, the cover of the Super Artery Low Bend series is divided into the following three types:

- 1) **Standard Cover:** oil, abrasion, weather resistant synthetic rubber.
- 2) **AR (Abrasion Resistance) Cover:** material weight loss is 1/7 of that of the standard cover, which means the AR cover is 7 times more abrasion resistant than the standard cover. Hose with AR cover is suitable for relatively harsh environments.
- 3) **SAR (Super Abrasion Resistance) Cover:** using UHMWPE as the hose cover material, the material weight loss under 2,000 cycles is 0g. Hose with SAR cover is suitable for extremely harsh environments.

Approvals



CONTENTS

Super Artery Low Bend Series

LT SA6991	EXCEEDS ISO18752-AC/CC	01
LT SA6992	EXCEEDS ISO18752-AC/BC/CC	02
LT SA5991	EXCEEDS ISO18752-BC/CC	03
LT SA5992	EXCEEDS ISO18752-BC/CC/DC	04
LT SA5993	EXCEEDS ISO18752 DC	05

Super Artery Low Bend Series Fittings

31 Series	1 or 2 Braids of Steel Wire Hose	06
41 Series	4 Plies of Steel Wire Spiral Hose	09
61 Series	6 Plies of Steel Wire Spiral Hose	12

LT SA6991 EXCEEDS ISO18752-AC/CC

Super Artery Low Bend Series

Hose Construction

Inner Tube: NBR or CR synthetic rubber, suitable for biodegradable hydraulic fluids.

Reinforcement: one braid of high tensile steel wire (1/2"-3/4"), impulse $\geq$ 300,000 cycles.
four plies of spiraled high tensile steel wire (1"-2"), impulse $\geq$ 1,000,000 cycles.

Cover: standard: no-skive abrasion, weather resistant synthetic rubber.
AR cover: no-skive, highly abrasion, weather resistant synthetic rubber.
SAR cover: super abrasion, weather resistant UHMWPE.

Temperature Range: -40°C ~ +121°C (-40°F ~ +250°F)
-55°C ~ +100°C (-67°F ~ +212°F)

Hose Features:

Low bend radius: the average bend radius is 41% less than the ISO 18752 AC/CC standard, 47% less than the SAE standard.

High pressure: the average pressure is 60% higher than the SAE standard.

Long service life: guarantee for two years by using with Letone one-piece or swaged fittings and HNBR seals.

Applications: suitable for heavy duty construction machineries such as excavators or harsh environment use.

Marking:


LETONE

SUPER ARTERY
 LT-SA6991 1"(25.4mm) W.P. 14.0MPa(2030PSI) B.P. 56MPa(8120PSI) EXCEEDS ISO 18752-CC MSHA IC-306

	ISO18752			Hose I.D. (mm)	Hose O.D. (mm)	Working Pressure (MPa)	Min. B.P. (MPa)	Min. B.R. (mm)	Weight. (kg/m)	Fitting Series
	6991 Standard	6991 AR	6991 SAR							
SA6991-1/2"-1	AC	AC	AC	13.0	20.7	18	72	80	0.419	31Series
SA6991-5/8"-1	AC	AC	AC	16.0	24.0	15	60	105	0.515	31Series
SA6991-3/4"-1	AC	AC	AC	19.0	28.0	14	56	120	0.661	31Series
SA6991-1"-4	CC	CC	CC	25.4	33.5	14	56	150	0.998	31Series
SA6991-1 1/4"-4	CC	CC	CC	32.0	43.0	14	56	190	1.395	31Series
SA6991-1 1/2"-4	CC	CC	CC	38.0	48.0	9	36	240	1.577	31Series
SA6991-2"-4	CC	CC	CC	51.0	62.0	8	32	500	2.341	31Series

Super Artery Low Bend Series

Hose Construction

Inner Tube: NBR or CR synthetic rubber, suitable for biodegradable hydraulic fluids.

Reinforcement: one braid of high tensile steel wire (1/4"-3/8"), impulse $\geq$ 300,000 cycles.
four layers of spiraled high tensile steel wire(1/2"-2"), impulse $\geq$ 1,000,000 cycles.

Cover: standard: no-skive abrasion, weather resistant synthetic rubber.
AR cover: no-skive, highly abrasion, weather resistant synthetic rubber.
SAR cover: super abrasion, weather resistant UHMWPE.

Temperature Range: -40°C ~ +121°C (-40°F ~ +250°F)
-55°C ~ +100°C (-67°F ~ +212°F)

Hose Features:

Low bend radius: the average bend radius is 30% less than the ISO 18752 AC/BC/CC standard, 38% less than the SAE standard.

High pressure: the average pressure is 36% higher than the SAE standard.

Long service life: guarantee for two years by using with Letone one-piece or swaged fittings and HNBR seals.

Applications: suitable for heavy duty construction machineries such as excavators or harsh environment use.

Marking:


LETONE

SUPER ARTERY®
 LT-SA6992 1"(25.4mm) W.P. 21.0MPa(3045PSI) B.P. 84MPa(12180PSI) EXCEEDS ISO 18752-BC MSHA IC-306

	ISO18752			Hose I.D. (mm)	Hose O.D. (mm)	Working Pressure (MPa)	Min. B.P. (MPa)	Min. B.R. (mm)	Weight. (kg/m)	Fitting Series
	6992 Standard	6992 AR	6992 SAR							
SA6992-1/4"-1	AC	AC	AC	6.3	13.4	25	100	40	0.219	31Series
SA6992-5/16"-1	AC	AC	AC	8.0	15.2	25	100	55	0.277	31Series
SA6992-3/8"-1	AC	AC	AC	10.0	17.4	21	84	65	0.33	31Series
SA6992-1/2"-4	AC	AC	AC	13.0	22.2	25	100	110	0.658	31Series
SA6992-5/8"-4	AC	AC	AC	16.0	25.4	25	100	130	0.771	31Series
SA6992-3/4"-4	BC	CC	CC	19.0	28.4	25	100	160	0.939	31Series
SA6992-1"-4	BC	CC	CC	25.4	35.3	21	84	210	1.247	31Series
SA6992-1 1/4"-4	CC	CC	CC	32.0	43.5	21	84	250	1.874	31Series
SA6992-1 1/2"-4	CC	CC	CC	38.0	49.0	17.5	70	300	2.127	31Series
SA6992-2"-4	CC	CC	CC	51.0	62.5	17.5	70	610	2.848	31Series

LT SA5991 EXCEEDS ISO18752-BC/CC

Super Artery Low Bend Series



Hose Construction

Inner Tube: NBR or CR synthetic rubber, suitable for biodegradable hydraulic fluids.

Reinforcement: four plies of spiraled high tensile steel wire, impulse $\geq 1,000,000$ cycles.

Cover: standard: no-skive abrasion, weather resistant synthetic rubber.

AR cover: no-skive, highly abrasion, weather resistant synthetic rubber.

SAR cover: super abrasion, weather resistant UHMWPE.

Temperature Range: $-40^{\circ}\text{C} \sim +121^{\circ}\text{C}$ ($-40^{\circ}\text{F} \sim +250^{\circ}\text{F}$) $-55^{\circ}\text{C} \sim +100^{\circ}\text{C}$ ($-67^{\circ}\text{F} \sim +212^{\circ}\text{F}$)

Hose Features:

Low bend radius: the average bend radius is 23% less than the ISO 18752 BC/CC standard, 24% less than the SAE standard.

High pressure: the average pressure is 22% higher than the SAE standard.

Long service life: guarantee for two years by using with Letone one-piece or swaged fittings and HNBR seals.

Applications: suitable for heavy duty construction machineries such as excavators or harsh environment use.

Marking:

 **LETONE** **SUPER ARTERY**® LT-SA5991 1"(25.4mm) W.P. 28.0MPa(4060PSI) B.P. 112MPa(16240PSI) EXCEEDS ISO 18752-CC MSHA IC-306

	ISO18752			Hose I.D. (mm)	Hose O.D. (mm)	Working Pressure (MPa)	Min. B.P. (MPa)	Min. B.R. (mm)	Weight. (kg/m)	Fitting Series
	5991 Standard	5991 AR	5991 SAR							
SA5991-1/2"-4	BC	CC	CC	13.0	22.2	28	112	110	0.706	31Series
SA5991-5/8"-4	BC	CC	CC	16.0	25.4	28	112	130	0.825	31Series
SA5991-3/4"-4	CC	CC	CC	19.0	28.4	28	112	160	0.945	41Series
SA5991-1"-4	CC	CC	CC	25.4	35.7	28	112	225	1.453	41Series
SA5991-1 1/4"-4	CC	CC	CC	32.0	44.0	28	112	285	2.101	41Series
SA5991-1 1/2"-4	CC	CC	CC	38.0	51.5	28	112	480	2.706	41Series
SA5991-2"-4	CC	CC	CC	51.0	66.5	28	112	650	4.302	41Series

Marking:

 **LETONE** **SUPER ARTERY**® LT-SA5991T 1"(25.4mm) W.P. 32.0MPa(4640PSI) B.P. 128MPa(18560PSI) EXCEEDS ISO 18752-CC MSHA IC-306

SIZE	Hose I.D.		Hose W.D.		Hose O.D.		Max.W.P (MPa)	P.P (MPa)	Min.B.P (MPa)	Min.B.R (mm)	W.T (kg/m)
	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)					
SA5991T-1/2"-4	12.5	13.5	19.8	21.0	21.8	23.8	41.5	83	166	230	0.82
SA5991T-5/8"-4	15.5	16.7	23.0	24.6	25.4	27.4	35	70	140	250	1.01
SA5991T-3/4"-4	18.6	19.8	27.4	29.0	30.0	32.0	35	70	140	300	1.43
SA5991T-1"-4	25.0	26.4	34.5	36.1	37.0	39.0	32	64	128	340	1.97
SA5991T-1 1/4"-4	31.4	33.0	45.0	46.4	47.4	49.8	21	42	84	460	2.96
SA5991T-1 1/2"-4	37.7	39.3	50.9	52.3	53.8	56.2	18.5	37	74	560	3.42
SA5991T-2"-4	50.4	52.0	64.3	66.3	66.9	69.3	16.5	33	66	660	4.77

LT SA5992 EXCEEDS ISO18752-BC/CC/DC


Super Artery Low Bend Series

Hose Construction

Inner Tube: NBR or CR synthetic rubber, suitable for biodegradable hydraulic fluids.

Reinforcement: two braids of high tensile steel wire (1/4"-5/16"), impulse≥500,000 cycles.
four plies of spiraled high tensile steel wire (3/8"-1 1/4"), impulse≥1,000,000 cycles.
six plies of spiraled high tensile steel wire (1 1/2"-2"), impulse≥1,000,000 cycles.

Cover: standard: abrasion, weather resistant synthetic rubber.

AR cover: highly abrasion, weather resistant synthetic rubber.

SAR cover: super abrasion, weather resistant UHMWPE.

Temperature Range: -40°C ~ +121°C (-40°F ~ +250°F) -55°C ~ +100°C (-67°F ~ +212°F)

Hose Features:

Low bend radius: the average bend radius is 48% less than the ISO 18752 BC/CC/DC standard, 50% less than the SAE standard.

High pressure: comply with ISO 18752 BC/CC/DC standard.

Long service life: guarantee for two years by using with Letone one-piece or swaged fittings and HNBR seals.

Applications: suitable for heavy duty construction machineries such as excavators or harsh environment use.

Marking:

® LETONE **SUPER ARTERY®** LT-SA5992 1"(25.4mm) W.P. 35.0MPa(5075PSI) B.P. 140MPa(20300PSI) EXCEEDS ISO 18752-CC MSHA IC-306

SIZE	ISO18752			Hose I.D. (mm)	Hose O.D. (mm)	Working Pressure (MPa)	Min. B.P. (MPa)	Min. B.R. (mm)	Weight. (kg/m)	Fitting Series
	5992 Standard	5992 AR	5992 SAR							
SA5992-1/4"-2	BC	CC	CC	6.3	13.6	40	160	50	0.283	31Series
SA5992-5/16"-2	BC	CC	CC	8.0	15.2	35	140	60	0.326	31Series
SA5992-3/8"-4	BC	CC	CC	10.0	18.7	35	140	63	0.524	31Series
SA5992-1/2"-4	CC	CC	DC	13.0	22.2	35	140	90	0.701	41Series
SA5992-5/8"-4	CC	CC	DC	16.0	25.0	35	140	100	0.817	41Series
SA5992-3/4"-4	CC	CC	DC	19.0	29.0	35	140	120	1.143	41Series
SA5992-1"-4	CC	CC	DC	25.4	36.5	35	140	150	1.649	41Series
SA5992-1 1/4"-4	CC	CC	DC	32.0	44.5	35	140	210	2.255	41Series
SA5992-1 1/2"-6	CC	CC	DC	38.0	55.5	35	140	255	4.348	61Series
SA5992-2"-6	CC	CC	DC	51.0	70.0	35	140	318	6.121	61Series

Marking:

® LETONE **SUPER ARTERY®** LT-SA5992T 1"(25.4mm) W.P. 38.0MPa(5510PSI) B.P. 152MPa(22040PSI) EXCEEDS ISO 18752-CC MSHA IC-306

SIZE	Hose I.D.		Hose W.D.		Hose O.D.		Max.W.P (MPa)	P.P (MPa)	Min.B.P (MPa)	Min.B.R (mm)	W.T (kg/m)
	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)					
SA5992T-5/8"-4	15.5	16.7	23.9	25.1	26.0	28.0	45	90	180	250	1.15
SA5992T-3/4"-4	18.6	19.8	27.6	29.2	30.0	32.0	42	84	168	280	1.54
SA5992T-1"-4	25.0	26.4	34.4	36.0	37.0	39.0	38	76	152	340	2.02
SA5992T-1 1/4"-4	31.4	33.0	40.9	42.9	43.8	46.2	32.5	65	130	460	2.48
SA5992T-1 1/2"-4	37.7	39.3	48.1	50.1	51.3	53.7	29	58	116	560	3.18
SA5992T-2"-4	50.4	52.0	62.2	64.2	65.3	67.7	25	50	100	700	4.46

LT SA5993 EXCEEDS ISO18752 DC

Super Artery Low Bend Series

Hose Construction

Inner Tube: NBR or CR synthetic rubber, suitable for biodegradable hydraulic fluids.

Reinforcement: four plies of spiraled high tensile steel wire (1/4"-1"), impulse $\geq$ 1,000,000 cycles.
six plies of spiraled high tensile steel wire (1 1/4"-2"), impulse $\geq$ 1,000,000 cycles.

Cover: standard: abrasion, weather resistant synthetic rubber.
AR cover: highly abrasion, weather resistant synthetic rubber.
SAR cover: super abrasion, weather resistant UHMWPE.

Temperature Range: -40°C ~ +121°C (-40°F ~ +250°F)
-55°C ~ +100°C (-67°F ~ +212°F)

Hose Features:

Low bend radius: the average bend radius is 27% less than the ISO 18752 DC standard, 37% less than the SAE standard.

High pressure: comply with ISO 18752 DC standard.

Long service life: guarantee for two years by using with Letone one-piece or swaged fittings and HNBR seals.

Applications: suitable for heavy duty construction machineries such as excavators or harsh environment use.

Marking:

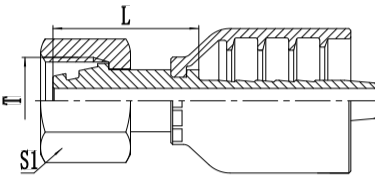
 **LETONE** **SUPER ARTERY®** LT-SA5993 1"(25.4mm) W.P. 42.0MPa(6090PSI) B.P. 168MPa(24360PSI) EXCEEDS ISO 18752-DC MSHA IC-306

	ISO18752			Hose I.D. (mm)	Hose O.D. (mm)	Working Pressure (MPa)	Min. B.P. (MPa)	Min. B.R. (mm)	Weight. (kg/m)	Fitting Series
	5992 Standard	5992 AR	5992 SAR							
SA5993-1/4"-4	DC	DC	DC	6.3	15.5	45	180	55	0.428	41Series
SA5993-5/16"-4	DC	DC	DC	8.0	17.0	45	180	60	0.479	41Series
SA5993-3/8"-4	DC	DC	DC	10.0	19.0	45	180	70	0.591	41Series
SA5993-1/2"-4	DC	DC	DC	13.0	22.2	45	180	140	0.701	41Series
SA5993-5/8"-4	DC	DC	DC	16.0	26.5	45	180	180	1.017	41Series
SA5993-3/4"-4	DC	DC	DC	19.0	30.5	42	168	200	1.383	41Series
SA5993-1"-4	DC	DC	DC	25.4	37.5	42	168	250	1.928	41Series
SA5993-1 1/4"-6	DC	DC	DC	32.0	49.5	42	168	400	3.626	61Series
SA5993-1 1/2"-6	DC	DC	DC	38.0	56.0	42	168	480	4.404	61Series
SA5993-2"-6	DC	DC	DC	51.0	70.0	42	168	650	6.33	61Series

HOSE FITTINGS 31 Series | Suitable for one or two braids of steel wire hoses

20411-TRW | Metric Female DIN 24° Cone Light Series with O-Ring

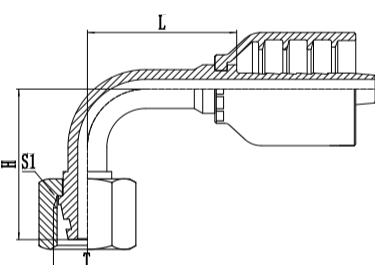
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		DIMENSIONS	
			DN	DASH	L	S1
	20411-12-04WRW	M12X1.5	6	4	22	17
	20411-14-04TRW	M14X1.5	6	4	23.5	17
	20411-16-04TRW	M16X1.5	6	4	20.5	19
	20411-16-05TRW	M16X1.5	8	5	25.5	19
	20411-16-06WRW	M16X1.5	10	6	23.5	19
	20411-18-05TRW	M18X1.5	8	5	23.5	22
	20411-18-06TRW	M18X1.5	10	6	26.5	22
	20411-18-08WRW	M18X1.5	13	8	25	22
	20411-22-08TRW	M22X1.5	13	8	28.5	27
	20411-22-10WRW	M22X1.5	16	10	26.5	27
	20411-26-08TRW	M26X1.5	13	8	30	32
	20411-26-12WRW	M26X1.5	19	12	29.5	32
	20411-26-10TRW	M26X1.5	16	10	32	32
	20411-30-10TRW	M30X2	16	10	32.5	36
	20411-30-12TRW	M30X2	19	12	33.5	36
	20411-36-12TRW	M36X2	19	12	35	41
	20411-36-16TRW	M36X2	25	16	36	41
	20411-45-16TRW	M45X2	25	16	34	50
	20411-45-20TRW	M45X2	32	20	35	50
	20411-52-20TRW	M52X2	32	20	38	60
	20411-52-24TRW	M52X2	38	20	38	60

Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

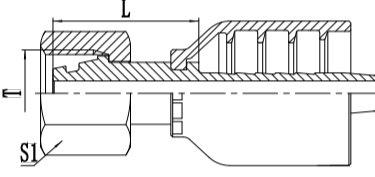
20491-TRW | 90° Metric Female DIN 24° Cone Light Series with O-Ring

ISO 12151-2

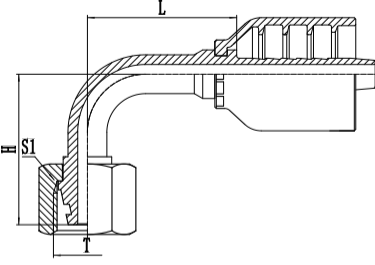
	PART NO.	THREAD T	HOSE BORE		DIMENSIONS		
			DN	DASH	L	H	S1
	20491-12-04WRW	M12X1.5	6	04	32	34.0	17
	20491-14-04TRW	M14X1.5	6	04	32	30.5	17
	20491-16-04TRW	M16X1.5	6	04	32.5	33	19
	20491-16-05TRW	M16X1.5	8	05	32.5	33	19
	20491-16-06WRW	M16X1.5	10	06	36.5	40	19
	20491-18-05TRW	M18X1.5	8	05	36.5	36	22
	20491-18-06TRW	M18X1.5	10	06	36.5	36	22
	20491-22-08TRW	M22X1.5	13	08	44.5	40.5	27
	20491-22-10WRW	M22X1.5	16	10	55.0	52.5	27
	20491-26-08TRW	M26X1.5	13	08	55	51.5	32
	20491-26-10TRW	M26X1.5	16	10	55	51.5	32
	20491-26-10T(H56.5)RW	M26X1.5	16	10	55	56.5	32
	20491-30-10TRW	M30X2	16	10	56	56	36
	20491-30-12TRW	M30X2	19	12	56	56	36
	20491-36-12TRW	M36X2	19	12	74	68.5	41
	20491-36-16TRW	M36X2	25	16	74	68.5	41
	20491-45-16TRW	M45X2	25	16	91.5	78.5	50
	20491-45-20TRW	M45X2	32	20	91.5	78.5	50
	20491-52-20TRW	M52X2	32	20	108	95	60
	20491-52-24TRW	M52X2	38	24	108	95	60

Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

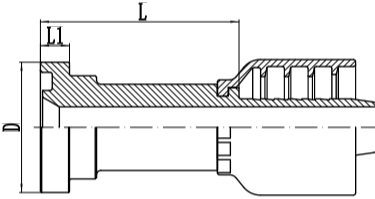
20511-TRW | Metric Female DIN 24° Cone Heavy Series with O-Ring
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		DIMENSIONS	
			DN	DASH	L	S1
	20511-16-04TRW	M16X1.5	6	04	24	19
	20511-16-05TRW	M16X1.5	8	05	24	19
	20511-18-04TRW	M18X1.5	6	04	25	22
	20511-18-05TRW	M18X1.5	8	05	25	22
	20511-18-06TRW	M18X1.5	10	06	25	22
	20511-20-05TRW	M20X1.5	8	05	25.5	24
	20511-20-06TRW	M20X1.5	10	06	25.5	24
	20511-20-08WRW	M20X1.5	13	08	25.0	24
	20511-22-06TRW	M22X1.5	10	06	25.5	27
	20511-24-08TRW	M24X1.5	13	08	30	30
	20511-30-10TRW	M30X2	16	10	34	36
	20511-30-12TRW	M30X2	19	12	35	36
	20511-36-12TRW	M36X2	19	12	32	46
	20511-36-16TRW	M36X2	25	16	35.5	46
	20511-42-16TRW	M42X2	25	16	36	50
	20511-42-20WRW	M42X2	32	20	35	50
	20511-52-20TRW	M52X2	32	20	36	60
Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.						

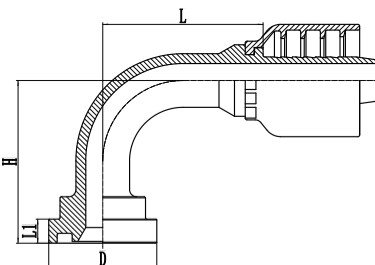
20591-TRW | 90° Metric Female DIN 24° Cone Heavy Series with O-Ring
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		TUBE O.E.	DIMENSIONS		
			DN	DASH		L	H	S1
	20591-16-04TRW	M16X1.5	6	04	8	32	32	19
	20591-18-04TRW	M18X1.5	6	04	10	32	32	22
	20591-18-05TRW	M18X1.5	8	05	10	32.5	34	22
	20591-18-06TRW	M18X1.5	10	06	10	36.5	35.5	22
	20591-20-05TRW	M20X1.5	8	05	12	32.5	34	24
	20591-20-06TRW	M20X1.5	10	06	12	36.5	35.5	24
	20591-22-06TRW	M22X1.5	10	06	14	36.5	43	27
	20591-24-08TRW	M24X1.5	13	08	16	44.5	43	30
	20591-30-10TRW	M30X2	16	10	20	55	49.5	36
	20591-30-12TRW	M30X2	19	12	20	62	59	36
	20591-36-12TRW	M36X2	19	12	25	62	59	46
	20591-36-16TRW	M36X2	25	16	25	74	70	46
	20591-42-16TRW	M42X2	25	16	30	74	70	50
	20591-52-20TRW	M52X2	32	20	38	91.5	87	60
Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.								

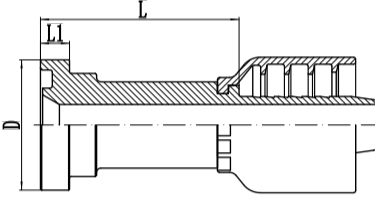
87311-RW | SAE Flange 3000PSI One-Piece Fittings
ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87311-08-08RW	1/2"	13	08	46	30.2	6.73
	87311-12-08RW	3/4"	13	08	47	38.1	6.73
	87311-12-10RW	3/4"	16	10	48	38.1	6.73
	87311-12-12RW	3/4"	19	12	48	38.1	6.73
	87311-12-16RW	3/4"	25	16	49	38.1	6.73
	87311-16-12RW	1"	19	12	51	44.4	8
	87311-16-16RW	1"	25	16	52	44.4	8
	87311-16-20RW	1"	32	20	53	44.4	8
	87311-20-16RW	1.1/4"	25	16	57	50.8	8
	87311-20-20RW	1.1/4"	32	20	58	50.8	8
	87311-24-20RW	1.1/2"	32	20	68	60.3	8
	87311-24-24RW	1.1/2"	38	24	68	60.3	8
	87311-32-24RW	2"	38	24	66	71.4	9.53
	87311-32-32RW	2"	51	32	66	71.4	9.53

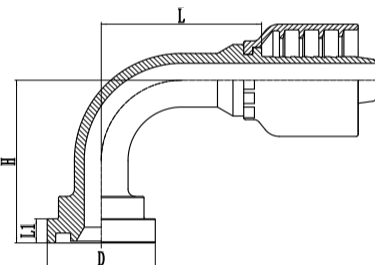
87391-RW | 90° SAE Flange 3000PSI One-Piece Fittings
ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS			
			DN	DASH	L	H	D	L1
	87391-08-08RW	1/2"	13	08	44.5	40	30.2	6.73
	87391-12-08RW	3/4"	13	08	62	58	38.1	6.73
	87391-12-10RW	3/4"	16	10	62	58	38.1	6.73
	87391-12-12RW	3/4"	19	12	62	58	38.1	6.73
	87391-12-16RW	3/4"	25	16	74	70	38.1	6.73
	87391-16-12RW	1"	19	12	74	70	44.4	8
	87391-16-16RW	1"	25	16	74	70	44.4	8
	87391-16-20RW	1"	32	20	91.5	90	44.4	8
	87391-20-16RW	1.1/4"	25	16	91.5	90	50.8	8
	87391-20-20RW	1.1/4"	32	20	91.5	90	50.8	8
	87391-24-20RW	1.1/2"	32	20	108	104	60.3	8
	87391-24-24RW	1.1/2"	38	24	108	104	60.3	8
	87391-32-24RW	2"	38	24	133.8	138	71.4	9.53
	87391-32-32RW	2"	51	32	133.8	138	71.4	9.53

87611-RW | SAE Flange 6000PSI One-Piece Fittings
ISO 12151-3

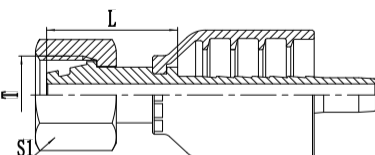
	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87611-08-08RW	1/2"	13	08	47	31.7	7.75
	87611-12-10RW	3/4"	16	10	51	41.3	8.76
	87611-12-12RW	3/4"	19	12	51	41.3	8.76
	87611-16-12RW	1"	19	12	56	47.6	9.53
	87611-16-16RW	1"	25	16	57	47.6	9.53
	87611-16-20RW	1"	32	20	58	47.6	9.53
	87611-20-16RW	1.1/4"	25	16	65	54	10.29
	87611-20-20RW	1.1/4"	32	20	66	54	10.29
	87611-24-20RW	1.1/2"	32	20	75	63.5	12.57
	87611-24-24RW	1.1/2"	38	24	75	63.5	12.57
	87611-32-24RW	2"	38	24	85	79.4	12.57
	87611-32-32RW	2"	51	32	85	79.4	12.57

87691-RW | 90° SAE Flange 6000PSI One-Piece Fittings
ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS			
			DN	DASH	L	H	D	L1
	87691-08-08RW	1/2"	13	08	44.5	40.0	31.7	7.75
	87691-12-10RW	3/4"	16	10	62.0	58.0	41.3	8.76
	87691-12-12RW	3/4"	19	12	62.0	58.0	41.3	8.76
	87691-16-12RW	1"	19	12	74.0	70.0	47.6	9.53
	87691-16-16RW	1"	25	16	74.0	70.0	47.6	9.53
	87691-16-20RW	1"	32	20	91.5	90.0	47.6	9.53
	87691-20-16RW	1.1/4"	25	16	91.5	90.0	54	10.29
	87691-20-20RW	1.1/4"	32	20	91.5	90.0	54	10.29
	87691-24-20RW	1.1/2"	32	20	108.0	104.0	63.5	12.57
	87691-24-24RW	1.1/2"	38	24	108.0	104.0	63.5	12.57
	87691-32-24RW	2"	38	24	133.8	138.0	79.4	12.57
	87691-32-32RW	2"	51	32	133.8	138.0	79.4	12.57

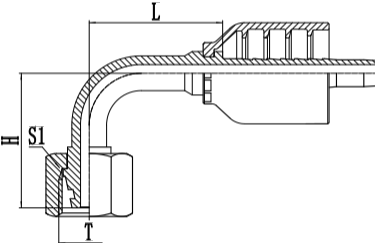
41 Series | Suitable for 4 plies of steel wire spiral hoses

20412-TRW | Metric Female DIN 24° Cone Light Series with O-Ring
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		DIMENSIONS	
			DN	DASH	L	S1
	20412-12-04WRW	M12X1.5	6	4	22	17
	20412-14-04TRW	M14X1.5	6	4	23.5	17
	20412-16-04TRW	M16X1.5	6	4	20.5	19
	20412-16-06WRW	M16X1.5	10	6	23.5	19
	20412-18-06TRW	M18X1.5	10	6	26.5	22
	20412-18-08WRW	M18X1.5	13	8	25	22
	20412-22-08TRW	M22X1.5	13	8	28.5	27
	20412-22-10WRW	M22X1.5	16	10	26.5	27
	20412-26-08TRW	M26X1.5	13	8	30	32
	20412-26-12WRW	M26X1.5	19	12	29.5	32
	20412-26-10TRW	M26X1.5	16	10	32	32
	20412-30-10TRW	M30X2	16	10	32.5	36
	20412-30-12TRW	M30X2	19	12	33.5	36
	20412-36-12TRW	M36X2	19	12	35	41
	20412-36-16TRW	M36X2	25	16	36	41
	20412-45-16TRW	M45X2	25	16	34	50
	20412-45-20TRW	M45X2	32	20	35	50
	20412-52-20TRW	M52X2	32	20	38	60
	20412-52-24TRW	M52X2	38	20	38	60

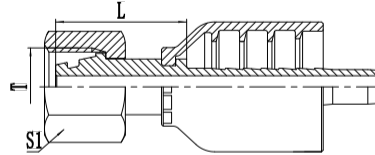
Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

20492-TRW | 90° Metric Female DIN 24° Cone Light Series with O-Ring
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		DIMENSIONS		
			DN	DASH	L	H	S1
	20492-12-04WRW	M12X1.5	6	04	32	34.0	17
	20492-14-04TRW	M14X1.5	6	04	32	30.5	17
	20492-16-04TRW	M16X1.5	6	04	32.5	33	19
	20492-16-06WRW	M16X1.5	10	06	36.5	40	19
	20492-18-06TRW	M18X1.5	10	06	36.5	36	22
	20492-22-08TRW	M22X1.5	13	08	44.5	40.5	27
	20492-22-10WRW	M22X1.5	16	10	55.0	52.5	27
	20492-26-08TRW	M26X1.5	13	08	55	51.5	32
	20492-26-10TRW	M26X1.5	16	10	55	51.5	32
	20492-26-10T(H535)RW	M26X1.5	16	10	55	56.5	32
	20492-30-10TRW	M30X2	16	10	56	56	36
	20492-30-12TRW	M30X2	19	12	56	56	36
	20492-36-12TRW	M36X2	19	12	74	68.5	41
	20492-36-16TRW	M36X2	25	16	74	68.5	41
	20492-45-16TRW	M45X2	25	16	91.5	78.5	50
	20492-45-20TRW	M45X2	32	20	91.5	78.5	50
	20492-52-20TRW	M52X2	32	20	108	95	60
	20492-52-24TRW	M52X2	38	24	108	95	60

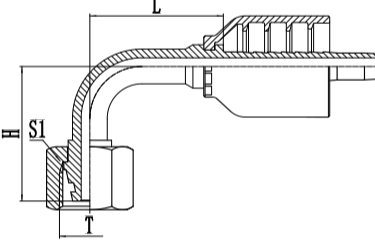
Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

20512-TRW | Metric Female DIN 24° Cone Heavy Series with O-Ring
ISO 12151-2

	PART NO.	THREAD T	HOSE BORE		DIMENSIONS	
			DN	DASH	L	S1
	20512-16-04TRW	M16X1.5	6	04	24	19
	20512-18-04TRW	M18X1.5	6	04	25	22
	20512-18-06TRW	M18X1.5	10	06	25	22
	20512-20-06TRW	M20X1.5	10	06	25.5	24
	20512-20-08WRW	M20X1.5	13	08	25.0	24
	20512-22-06TRW	M22X1.5	10	06	25.5	27
	20512-24-08TRW	M24X1.5	13	08	30	30
	20512-30-10TRW	M30X2	16	10	34	36
	20512-30-12TRW	M30X2	19	12	35	36
	20512-36-12TRW	M36X2	19	12	32	46
	20512-36-16TRW	M36X2	25	16	35.5	46
	20512-42-16TRW	M42X2	25	16	36	50
	20512-42-20WRW	M42X2	32	20	35	50
	20512-52-20TRW	M52X2	32	20	36	60

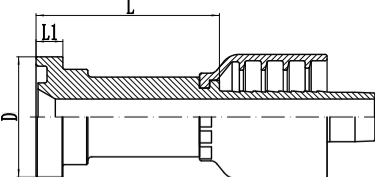
Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

20592-TRW | 90° Metric Female DIN 24° Cone Heavy Series with O-Ring
ISO 12151-2

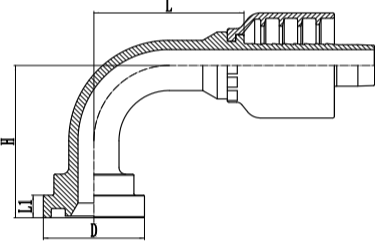
	PART NO.	THREAD T	HOSE BORE		TUBE O.E.	DIMENSIONS		
			DN	DASH		L	H	S1
	20592-16-04TRW	M16X1.5	6	04	8	32	32	19
	20592-18-04TRW	M18X1.5	6	04	10	32	32	22
	20592-18-06TRW	M18X1.5	10	06	10	36.5	35.5	22
	20592-20-06TRW	M20X1.5	10	06	12	36.5	35.5	24
	20592-22-06TRW	M22X1.5	10	06	14	36.5	43	27
	20592-24-08TRW	M24X1.5	13	08	16	44.5	43	30
	20592-30-10TRW	M30X2	16	10	20	55	49.5	36
	20592-30-12TRW	M30X2	19	12	20	62	59	36
	20592-36-12TRW	M36X2	19	12	25	62	59	46
	20592-36-16TRW	M36X2	25	16	25	74	70	46
	20592-42-16TRW	M42X2	25	16	30	74	70	50
	20592-52-20TRW	M52X2	32	20	38	91.5	87	60

Note: -TRW represents sleeve nut one-piece fitting; -WRW represents wire nut one-piece fitting.

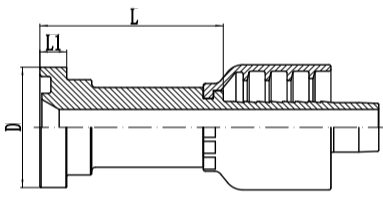
87312-RW | SAE Flange 3000PSI One-Piece Fittings
ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87312-08-08RW	1/2"	13	08	46	30.2	6.73
	87312-12-08RW	3/4"	13	08	47	38.1	6.73
	87312-12-10RW	3/4"	16	10	48	38.1	6.73
	87312-12-12RW	3/4"	19	12	48	38.1	6.73
	87312-12-16RW	3/4"	25	16	49	38.1	6.73
	87312-16-12RW	1"	19	12	51	44.4	8
	87312-16-16RW	1"	25	16	52	44.4	8
	87312-16-20RW	1"	32	20	53	44.4	8
	87312-20-16RW	1.1/4"	25	16	57	50.8	8
	87312-20-20RW	1.1/4"	32	20	58	50.8	8
	87312-24-20RW	1.1/2"	32	20	68	60.3	8
	87312-24-24RW	1.1/2"	38	24	68	60.3	8
	87312-32-24RW	2"	38	24	66	71.4	9.53
	87312-32-32RW	2"	51	32	66	71.4	9.53

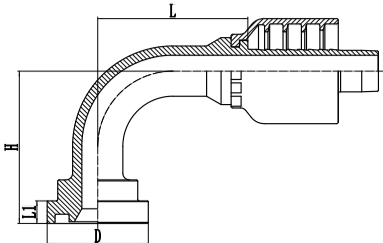
87392-RW | 90° SAE Flange 3000PSI One-Piece Fittings
ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS			
			DN	DASH	L	H	D	L1
	87392-08-08RW	1/2"	13	08	44.5	40	30.2	6.73
	87392-12-08RW	3/4"	13	08	62	58	38.1	6.73
	87392-12-10RW	3/4"	16	10	62	58	38.1	6.73
	87392-12-12RW	3/4"	19	12	62	58	38.1	6.73
	87392-12-16RW	3/4"	25	16	74	70	38.1	6.73
	87392-16-12RW	1"	19	12	74	70	44.4	8
	87392-16-16RW	1"	25	16	74	70	44.4	8
	87392-16-20RW	1"	32	20	91.5	90	44.4	8
	87392-20-16RW	1.1/4"	25	16	91.5	90	50.8	8
	87392-20-20RW	1.1/4"	32	20	91.5	90	50.8	8
	87392-24-20RW	1.1/2"	32	20	108	104	60.3	8
	87392-24-24RW	1.1/2"	38	24	108	104	60.3	8
	87392-32-24RW	2"	38	24	133.8	138	71.4	9.53
	87392-32-32RW	2"	51	32	133.8	138	71.4	9.53

87612-RW | SAE Flange 6000PSI One-Piece Fittings
ISO 12151-3

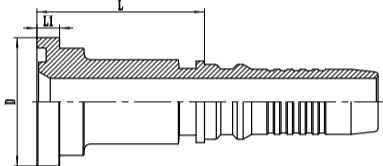
	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87612-08-08RW	1/2"	13	08	47	31.7	7.75
	87612-12-10RW	3/4"	16	10	51	41.3	8.76
	87612-12-12RW	3/4"	19	12	51	41.3	8.76
	87612-16-12RW	1"	19	12	56	47.6	9.53
	87612-16-16RW	1"	25	16	57	47.6	9.53
	87612-16-20RW	1"	32	20	58	47.6	9.53
	87612-20-16RW	1.1/4"	25	16	65	54	10.29
	87612-20-20RW	1.1/4"	32	20	66	54	10.29
	87612-24-20RW	1.1/2"	32	20	75	63.5	12.57
	87612-24-24RW	1.1/2"	38	24	75	63.5	12.57
	87612-32-24RW	2"	38	24	85	79.4	12.57
	87612-32-32RW	2"	51	32	85	79.4	12.57

87692-RW | 90° SAE Flange 6000PSI One-Piece Fittings
ISO 12151-3

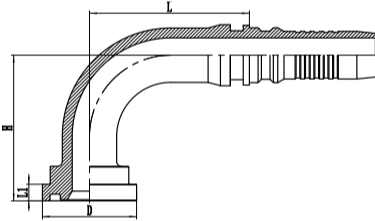
	PART NO.	FLANGE SIZE	HOSE BORE		尺寸DIMENSIONS			
			DN	DASH	L	H	D	L1
	87692-08-08RW	1/2"	13	08	44.5	40.0	31.7	7.75
	87692-12-10RW	3/4"	16	10	62.0	58.0	41.3	8.76
	87692-12-12RW	3/4"	19	12	62.0	58.0	41.3	8.76
	87692-16-12RW	1"	19	12	74.0	70.0	47.6	9.53
	87692-16-16RW	1"	25	16	74.0	70.0	47.6	9.53
	87692-16-20RW	1"	32	20	91.5	90.0	47.6	9.53
	87692-20-16RW	1.1/4"	25	16	91.5	90.0	54	10.29
	87692-20-20RW	1.1/4"	32	20	91.5	90.0	54	10.29
	87692-24-20RW	1.1/2"	32	20	108.0	104.0	63.5	12.57
	87692-24-24RW	1.1/2"	38	24	108.0	104.0	63.5	12.57
	87692-32-24RW	2"	38	24	133.8	138.0	79.4	12.57
	87692-32-32RW	2"	51	32	133.8	138.0	79.4	12.57

61 Series | Suitable for 6 plies of steel wire spiral hoses

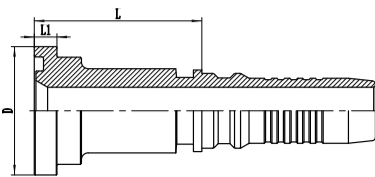
87313 | SAE Flange 3000PSI Interlock Fittings
Using with 00621 Ferrule Series ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87313-12-12	3/4"	19	12	48	38.1	6.73
	87313-12-16	3/4"	25	16	49	38.1	6.73
	87313-16-12	1"	19	12	51	44.4	8
	87313-16-16	1"	25	16	52	44.4	8
	87313-16-20	1"	32	20	53	44.4	8
	87313-20-16	1.1/4"	25	16	57	50.8	8
	87313-20-20	1.1/4"	32	20	58	50.8	8
	87313-24-20	1.1/2"	32	20	68	60.3	8
	87313-24-24	1.1/2"	38	24	68	60.3	8
	87313-32-24	2"	38	24	66	71.4	9.53
	87313-32-32	2"	51	32	66	71.4	9.53

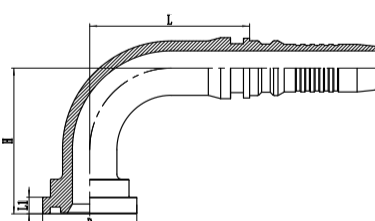
87393 | 90° SAE Flange 3000PSI Interlock Fittings
Using with 00621 Ferrule Series ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS			
			DN	DASH	L	H	D	L1
	87393-12-12	3/4"	19	12	62	58	38.1	6.73
	87393-12-16	3/4"	25	16	74	70	38.1	6.73
	87393-16-12	1"	19	12	74	70	44.4	8
	87393-16-16	1"	25	16	74	70	44.4	8
	87393-16-20	1"	32	20	91.5	90	44.4	8
	87393-20-16	1.1/4"	25	16	91.5	90	50.8	8
	87393-20-20	1.1/4"	32	20	91.5	90	50.8	8
	87393-24-20	1.1/2"	32	20	108	104	60.3	8
	87393-24-24	1.1/2"	38	24	108	104	60.3	8
	87393-32-24	2"	38	24	133.8	138	71.4	9.53
	87393-32-32	2"	51	32	133.8	138	71.4	9.53

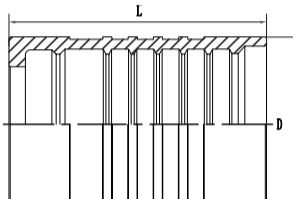
87613 | SAE Flange 6000PSI Interlock Fittings
Using with 00621 Ferrule Series ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS		
			DN	DASH	L	D	L1
	87613-12-12	3/4"	19	12	51	41.3	8.76
	87613-16-12	1"	19	12	56	47.6	9.53
	87613-16-16	1"	25	16	57	47.6	9.53
	87613-16-20	1"	32	20	58	47.6	9.53
	87613-20-16	1.1/4"	25	16	65	54	10.29
	87613-20-20	1.1/4"	32	20	66	54	10.29
	87613-24-20	1.1/2"	32	20	75	63.5	12.57
	87613-24-24	1.1/2"	38	24	75	63.5	12.57
	87613-32-24	2"	38	24	85	79.4	12.57
	87613-32-32	2"	51	32	85	79.4	12.57

87693 | 90° SAE Flange 6000PSI Interlock Fittings
Using with 00621 Ferrule Series ISO 12151-3

	PART NO.	FLANGE SIZE	HOSE BORE		DIMENSIONS			
			DN	DASH	L	H	D	L1
	87693-12-12	3/4"	19	12	62.0	58.0	41.3	8.76
	87693-16-12	1"	19	12	74.0	70.0	47.6	9.53
	87693-16-16	1"	25	16	74.0	70.0	47.6	9.53
	87693-16-20	1"	32	20	91.5	90.0	47.6	9.53
	87693-20-16	1.1/4"	25	16	91.5	90.0	54	10.29
	87693-20-20	1.1/4"	32	20	91.5	90.0	54	10.29
	87693-24-20	1.1/2"	32	20	108.0	104.0	63.5	12.57
	87693-24-24	1.1/2"	38	24	108.0	104.0	63.5	12.57
	87693-32-24	2"	38	24	133.8	138.0	79.4	12.57
	87693-32-32	2"	51	32	133.8	138.0	79.4	12.57

00621 | Skive Ferrules

	PART NO.	HOSE BORE		DIMENSIONS	
		DN	DASH	L	D
	00621-12	19	12	53	39.5
	00621-16	25	15	66	48.5
	00621-20	32	20	88	60
	00621-24	38	24	102	69.3
	00621-32	51	32	106	84.5

Note: Using with interlock fittings.

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