



TYPE APPROVAL CERTIFICATE
No. MAC160222WS

This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"

<i>Description</i>	Non metallic flexible hoses
<i>Type</i>	Hose Series (BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2, H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D) Outer Cover Type (DIEHARD™, SLIDER™,ADVANTAGE™, Other)
<i>Applicant</i>	RYCO Hydraulics Pty. Ltd. 99 Calarco Drive, Derrimut, Victoria, 3026, Australia.
<i>Manufacturer</i>	RYCO Hydraulics Pty. Ltd.
<i>Place of manufacture</i>	99 Calarco Drive, Derrimut, Victoria, 3026, Australia.
<i>Reference standards</i>	RINA Rules for the Type Approval of Flexible Hoses and Expansion Joints
<i>Reference documents</i>	RINA TYPE APPROVAL SYSTEM

Issued in **Genoa** on **June 19, 2022.** This Certificate is valid until **June 18, 2027**


RINA Services S.p.A.
Qiang Sun

This certificate consists of this page and 1 enclosure



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Reference Documents/Manufacturer's Documents

- Technical principle drawings have been reviewed with RINA No.:SHMC11632/21609/21610/21615/21619 on 12/07/2017, 04/07/2022.
- Test reports have been reviewed with RINA No.:SHMC-11633/22055~22073 on 12/07/2017, 26/07/2022.

Product Description:

1. General list

Hose Series	Outer Cover Type			
	DIEHARD™	SLIDER™	ADVANTAGE™	Other
BT1	-	-	-	-
D2B	-	-	-	-
T3000	T3000D	T3000S	-	-
T3600	T3600D	T3600S	-	-
T4000	T4000D	T4000S	-	-
T5000	T5000D	T5000S	-	-
T6000	T6000D	T6000S	-	-
H3000	H3000D	H3000S	-	-
H4000	H4000D	H4000S	-	-
H5000	H5000D	H5000S	-	H5000C
H6000	H6000D	H6000S	-	-
HSP	-	-	HSPE	-
T1	T1D	T1S	T1E	T1F
SR/SRF/SRX	-	-	-	-
M2	-	-	-	-
H12	H12D	H12S	-	-
H13	H13D	H13S	-	-
H15	H15D	-	-	-



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Hose Series	Outer Cover Type			
	DIEHARD™	SLIDER™	ADVANTAGE™	Other
T2	T2D/TXA2D	T2S	T2E	T2C
DF1	-	-	DF1E	-
DF2	-	-	DF2E	-
RQP1	-	-	-	-
RQP2	-	-	-	-
RQP5	-	-	-	-
T5	-	-	-	-
RTH1	-	-	-	-
R4SP	R4SPD	-	-	-
R4SH	R4SHD	-	-	-
DK1	DK1D	DK1S	-	DK1E
DK2	DK2D	DK2S	-	DK2E
TXA2	TXA2D	-	-	-



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

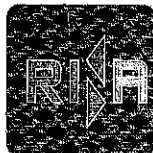
Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

2. Product information

H3000	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
H3020	31	1 ¼	-20	215	3100	T7000
H3024	38	1 ½	-24	215	3100	T7000
H3032	51	2	-32	215	3100	T7000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: One or two braids of high tensile steel wire						
Temperature range: -40°C to +121°C						

H4000	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
H4006	10	3/8	-06	280	4100	T7000
H4008	12	½	-08	280	4100	T7000
H4010	16	5/8	-10	280	4100	T7000
H4012	19	¾	-12	280	4100	T7000
H4016	25	1	-16	280	4100	T7000
H4020	31	1 ¼	-20	280	4100	T7000
H4024	38	1 ½	-24	280	4100	T7000
H4032	51	2	-32	280	4100	T7000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Multiple alternating layers of spiralled high tensile steel wire						
Temperature range: -40°C to +121°C						



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

H5000	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
H5006	10	3/8	-06	350	5100	T7000
H5008	12	½	-08	350	5100	T7000
H5010	16	5/8	-10	350	5100	T7000
H5012	19	¾	-12	350	5100	T7000
H5016	25	1	-16	350	5100	T7000
H5020	31	1 ¼	-20	350	5100	T7000
H5024	38	1 ½	-24	350	5100	T6000/T7000
H5032	51	2	-32	350	5100	T7000/T9000

Tube: Black, oil resistant synthetic rubber

Reinforcement: Multiple alternating layers of spiralled high tensile steel wire

Temperature range: -40°C to +121°C

H6000	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	Bitelok skive two-piece crimp
H6006	10	3/8	-06	420	6100	T7000	-
H6008	12	½	-08	420	6100	T7000	-
H6010	16	5/8	-10	420	6100	T7000	-
H6012	19	¾	-12	420	6100	T6000/T7000	-
H6016	25	1	-16	420	6100	T6000/T7000	-
H6020	31	1 ¼	-20	420	6100	T6000/T7000	66000N
H6024	38	1 ½	-24	420	6100	T6000	66000N
H6032	51	2	-32	420	6100	T6000	66000N

Tube: Black, oil resistant synthetic rubber

Reinforcement: Multiple alternating layers of spiralled high tensile steel wire

Temperature range: -40°C to +121°C



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T3000	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
T3004	6	¼	-04	245	3500	T1000/T2000
T3005	8	5/16	-05	245	3500	T1000/T2000
T3006	10	3/8	-06	215	3100	T1000/T2000
T3008	12	½	-08	215	3100	T1000/T2000
T3010	16	5/8	-10	215	3100	T1000/T2000
T3012	19	¾	-12	215	3100	T1000/T2000
T3016	25	1	-16	215	3100	T2000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One or two braids of high tensile steel wire

Temperature range: -40°C to +100°C

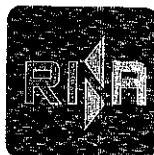
T3600	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
T3604	6	¼	-04	250	3625	T1000/T2000
T3605	8	5/16	-05	250	3625	T1000/T2000
T3606	10	3/8	-06	250	3625	T1000/T2000
T3608	12	½	-08	250	3625	T1000/T2000
T3610	16	5/8	-10	250	3625	T1000/T2000
T3612	19	¾	-12	250	3625	T1000/T2000
T3616	25	1	-16	250	3625	T1000/T2000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One braid of high tensile steel wire(Size-04&06);

Two braids of high tensile steel wire(Size-08, 10, 12&16)

Temperature range: -40°C to +100°C



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Hose Series

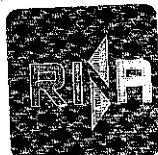
(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T4000	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
T4004	6	¼	-04	280	4100	T2000
T4005	8	5/16	-05	280	4100	T2000
T4006	10	3/8	-06	280	4100	T2000
T4008	12	½	-08	280	4100	T2000
T4010	16	5/8	-10	280	4100	T2000
T4012	19	¾	-12	280	4100	T2000
T4016	25	1	-16	280	4100	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: One or two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						

T5000	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
T5004	6	¼	-04	350	5100	T2000
T5005	8	5/16	-05	350	5100	T2000
T5006	10	3/8	-06	350	5100	T2000
T5008	12	½	-08	350	5100	T2000
T5010	16	5/8	-10	350	5100	T2000
T5012	19	¾	-12	350	5100	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T6000	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
T6004	6	¼	-04	420	6100	T2000
T6005	8	5/16	-05	420	6100	T2000
T6006	10	3/8	-06	420	6100	T2000
T6008	12	½	-08	420	6100	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						

H12D	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	Bitelok skive one-piece crimp
H1206D	10	3/8	-06	350	5100	T7000	-
H1208D	12	½	-08	350	5100	T7000	-
H1210D	16	5/8	-10	350	5100	T7000	-
H1212D	19	¾	-12	350	5100	T7000	-
H1216D	25	1	-16	350	5100	T7000	-
H1220D	31	1 ¼	-20	275	4000	T7000	-
H1224D	38	1 ½	-24	255	3700	T7000	-
H1232D	51	2	-32	210	3050	T7000	-
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Four alternating layers of spiralled high tensile steel wire							
Temperature range: -40°C to +121°C							



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

H12S	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	Bitelok skive one-piece crimp
H1206S	10	3/8	-06	350	5100	T7000	-
H1208S	12	½	-08	350	5100	T7000	-
H1210S	16	5/8	-10	350	5100	T7000	-
H1212S	19	¾	-12	350	5100	T7000	-
H1216S	25	1	-16	350	5100	T7000	-
H1220S	31	1 ¼	-20	275	4000	T7000	-
H1224S	38	1 ½	-24	255	3700	T7000	-
H1232S	51	2	-32	210	3050	T7000	-
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Four alternating layers of spiralled high tensile steel wire							
Temperature range: -40°C to +121°C							

H13D	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	Bitelok skive one-piece crimp
H1312D	19	¾	-12	350	5100	T9000	T7000
H1316D	25	1	-16	350	5100	T9000	T7000
H1320D	31	1 ¼	-20	350	5100	T9000	T7000/69000N
H1324D	38	1 ½	-24	350	5100	T9000	69000N
H1332D	51	2	-32	350	5100	T9000	69000N
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Four alternating layers of spiralled high tensile steel wire(Size-12&16) Six alternating layers of spiralled high tensile steel wire(Size-20, 24&32)							
Temperature range: -40°C to +121°C							



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

HI3S	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	Bitelok skive one-piece crimp	
HI312S	19	¾	-12	350	5100		T9000	T7000
HI316S	25	1	-16	350	5100	T9000	T7000	-
HI320S	31	1 ¼	-20	350	5100	T9000	T7000	69000K/N
HI324S	38	1 ½	-24	350	5100	T9000	-	69000K/N
HI332S	51	2	-32	350	5100	T9000	-	69000K/N/T
Tube: Black, oil resistant synthetic rubber								
Reinforcement: Multiple alternating layers of spiralled high tensile steel wire								
Temperature range: -40°C to +121°C								

HI5D	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Bitelok interlok skive two-piece crimp		Bitelok skive one-piece crimp
						Insert	Ferrule	
HI512D	19	¾	-12	420	6000	900N	69000N-12	-
HI516D	25	1	-16	420	6000	900N	69000N-16	T9000
HI520D	31	1 ¼	-20	420	6000	900N	69000N-20	T9000
HI524D	38	1 ½	-24	420	6000	900N	69000N-24	-
HI532D	51	2	-32	420	6000	900N	69000N-32	-
Tube: Black, oil resistant rubber(Neoprene)								
Reinforcement: Four layers of alternated, spiralled high tensile steel wire(Size-12&16) Six layers of alternated, spiralled high tensile steel wire(Size-20, 24&32)								
Temperature range: -40°C to +121°C								



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

R4SHD	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp	
R4SH12D	19	¾	-12	420	6100	-	T9000
R4SH16D	25	1	-16	380	5500	-	T9000
R4SH20D	31	1 ¼	-20	350	5100	T7000	-
R4SH24D	38	1 ½	-24	300	4350	T7000	-
R4SH32D	51	2	-32	250	3625	T7000	-
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Four alternating layers of spiralled high tensile steel wire							
Temperature range: -40°C to +100°C							

R4SPD	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Bitelok skive one-piece crimp	
R4SP06D	10	3/8	-06	445	6450	T7000	
R4SP08D	12	½	-08	420	6100	T7000	
R4SP10D	16	5/8	-10	380	5500	T7000	
R4SP12D	19	3/4	-12	380	5500	T7000	
R4SP16D	25	1	-16	350	5100	T7000	
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Four alternating layers of spiralled high tensile steel wire							
Temperature range: -40°C to +100°C							



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

RQP1	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive K series		Bitelok non-skive one-piece crimp
						Insert	Ferrule	
RQP14	6	¼	-04	225	3250	6000 series	K000-04	T2000
RQP15	8	5/16	-05	215	3210	-	-	T2000
RQP16	10	3/8	-06	180	2600	6000 series	K000-06	T2000/T7000
RQP18	12	½	-08	160	2300	6000 series	K000-08	T2000/T7000
RQP110	16	5/8	-10	130	1900	6000 series	K000-10	T2000/T7000
RQP112	19	3/4	-12	120	1740	6000 series	K000-12	T2000/T7000
RQP116	25	1	-16	90	1300	6000 series	K000-16	T2000/T7000

Tube: Black, synthetic rubber, specifically compounded for temperature resistance and multi fluid resistance

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +150°C

Note: Field attachable couplings should not be used on RQP1 hose at Max. working pressure when temperature exceeds 121°C. Field attachable couplings may be used on RQP1 hose at over 121°C but at reduced working pressure.



Signature

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

RQP2	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive/skive L/B series		Bitelok non-skive one-piece crimp
						Insert	Ferrule	
RQP24	6	¼	-04	400	5800	6000 series	L000-04	T2000
RQP25	8	5/16	-05	350	5100	-	-	T2000
RQP26	10	3/8	-06	350	5100	6000 series	L000-06	T2000/T7000
RQP28	12	½	-08	300	4350	6000 series	L000-08	T2000/T7000
RQP210	16	5/8	-10	250	3600	6000 series	L000-10	T2000/T7000
RQP212	19	3/4	-12	215	3100	6000 series	L000-12	T2000/T7000
RQP216	25	1	-16	167	2400	6000 series	L000-16	T2000/T7000
RQP220	31	1 ¼	-20	150	2175	6000 series	L000-20	T2000/T7000
RQP224	38	1 ½	-24	100	1450	6000 series	B000-24	T2000/T7000
RQP232	51	2	-32	90	1300	6000 series	B000-32	T2000/T7000

Tube: Black, synthetic rubber, specifically compounded for temperature resistance and multi fluid resistance

Reinforcement: Two braids of high tensile steel wire

Temperature range: -40°C to +150°C

Note: Field attachable couplings should not be used on RQP2 hose at Max. working pressure when temperature exceeds 121°C. Field attachable couplings may be used on RQP2 hose at over 121°C but at reduced working pressure. When using B series field attachable couplings on RQP2 series hose, cover of hose must be skived at ends.



Sm Diaz

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

RQP5	Hose size			Max.working pressure		Coupling			
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive V series			Bitelok non-skive one-piece crimp
						Insert	Ferrule	Coupling	
RQP54	5	3/16	-04	210	3050	6xx-03	V000-04	Vxx-03	T400-3
RQP55	6	¼	-05	210	3050	6xx-04	V000-05	Vxx-04	T400-4
RQP56	8	5/16	-06	155	2250	6xx-05	V000-06	Vxx-05	T400-5
RQP58	10	13/32	-08	138	2000	6xx-06	V000-08	Vxx-06	T400-6
RQP510	12	½	-10	121	1750	6xx-08	V000-10	Vxx-08	T400-8
RQP512	16	5/8	-12	103	1500	6xx-10	V000-12	Vxx-10	T400-10
RQP516	22	7/8	-16	55	800	6xx-14	V000-16	Vxx-14	T4000-14
RQP520	28	1 1/8	-20	43	625	6xx-18	V000-20	Vxx-18	T4000-18
RQP524	35	1 3/8	-24	35	500	6xx-22	V000-24	Vxx-22	T4000-24
RQP532	46	1 13/16	-32	24	350	6xx-29	V000-32	Vxx-29	T4000-29
Tube: Black, synthetic rubber, specifically compounded for temperature resistance and multi fluid resistance									
Reinforcement: Polyester inner braid covered with one braid of high tensile steel wire									
Temperature range: -40°C to +150°C									

DF1E	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
DF14E	6	¼	-04	225	3250	T2000
DF15E	8	5/16	-05	215	3100	T2000
DF16E	10	3/8	-06	180	2600	T2000
DF18E	12	½	-08	160	2300	T2000
DF110E	16	5/8	-10	130	1890	T2000
DF112E	19	¾	-12	105	1500	T2000
DF116E	25	1	-16	88	1280	T2000
Tube: Oil resistant synthetic rubber(Nitrile)						
Reinforcement: One braid of high tensile steel wire						
Temperature range: -40°C to +100°C						



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

DF2E	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DF24E	6	¼	-04	420	6000	T2000
DF26E	10	3/8	-06	350	5100	T2000/T7000
DF28E	12	½	-08	295	4250	T2000
DF210E	16	5/8	-10	250	3600	T2000
DF212E	19	¾	-12	215	3100	T2000/T7000
DF216E	25	1	-16	167	2400	T2000
Tube: Oil resistant synthetic rubber(Nitrile)						
Reinforcement: One braid of high tensile steel wire						
Temperature range: -40°C to +100°C						

DF2D	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DF24D	6	¼	-04	420	6000	T2000
DF26D	10	3/8	-06	350	5100	T2000/T7000
DF28D	12	½	-08	295	4250	T2000
DF210D	16	5/8	-10	250	3600	T2000
DF212D	19	¾	-12	215	3100	T2000/T7000
DF216D	25	1	-16	167	2400	T2000
Tube: Black, oil resistant synthetic rubber(Nitrile)						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T1D	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive	Bitelok non-skive one-piece crimp
T13D	5	3/16	-03	250	3600	6000(K000)	T2000
T14D	6	¼	-04	225	3250	6000(K000)	T2000
T15D	8	5/16	-05	215	3100	6000(K000)	T2000
T16D	10	3/8	-06	180	2600	6000(K000)	T2000/T7000
T18D	12	½	-08	160	2300	6000(K000)	T2000/T7000
T110D	16	5/8	-10	130	1900	6000(K000)	T2000/T7000
T112D	19	¾	-12	105	1500	6000(K000)	T2000/T7000
T116D	25	1	-16	90	1300	6000(K000)	T2000/T7000
T120D	31	1 ¼	-20	65	945	-	T2000/T7000
T124D	38	1 ½	-24	50	725	-	T2000/T7000
T132D	51	2	-32	40	580	-	T2000/T7000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +100°C

Note: When using A000 series field attachable couplings on T1D series hose, cover of hose must be skived at ends.



Smilbar

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

TIS	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
T13S	5	3/16	-03	250	3600	T2000
T14S	6	¼	-04	225	3250	T2000
T15S	8	5/16	-05	215	3100	T2000
T16S	10	3/8	-06	180	2600	T2000/T7000
T18S	12	½	-08	160	2300	T2000/T7000
T110S	16	5/8	-10	130	1900	T2000/T7000
T112S	19	¾	-12	105	1500	T2000/T7000
T116S	25	1	-16	90	1300	T2000/T7000
T120S	31	1 ¼	-20	65	945	T2000/T7000
T124S	38	1 ½	-24	50	725	T2000/T7000
T132S	51	2	-32	40	580	T2000/T7000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: One braid of high tensile steel wire						
Temperature range: -40°C to +100°C						



Sumdial

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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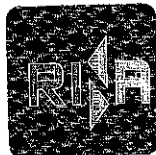
Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T1E	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
T13E	5	3/16	-03	250	3600	T2000
T14E	6	¼	-04	225	3250	T2000
T15E	8	5/16	-05	215	3100	T2000
T16E	10	3/8	-06	180	2600	T2000/T7000
T18E	12	½	-08	160	2300	T2000/T7000
T110E	16	5/8	-10	130	1900	T2000/T7000
T112E	19	¾	-12	105	1500	T2000/T7000
T116E	25	1	-16	90	1300	T2000/T7000
T120E	31	1 ¼	-20	65	945	T2000/T7000
T124E	38	1 ½	-24	50	725	T7000
T132E	51	2	-32	40	580	T7000
Tube: Black, oil resistant synthetic rubber(Nitrile)						
Reinforcement: One braid of high tensile steel wire						
Temperature range: -40°C to +100°C						



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

TIF	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive K series		Bitelok non-skive one-piece crimp
						Insert	Ferrule	
T13F	5	3/16	-03	250	3600	-	-	T2000
T14F	6	¼	-04	225	3250	6000 series	K000-04	T2000
T16F	10	3/8	-06	180	2600	6000 series	K000-06	T2000/T7000
T18F	12	½	-08	160	2300	6000 series	K000-08	T2000/T7000
T112F	19	¾	-12	105	1500	6000 series	K000-12	T2000/T7000

Tube: Black, synthetic rubber(Nitrile). Resistant to aqueous film forming foam, dry chemical powder, carbon dioxide and water based fire extinguishing agents.

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +100°C



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No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T2D	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive/skive L/B series		Bitelok non-skive one-piece crimp
						Insert	Ferrule	
T24D	6	¼	-04	420	6000	6000 series	L00-04	T2000
T25D	8	5/16	-05	350	5100	-	-	T2000
T26D	10	3/8	-06	350	5100	6000 series	L000-06	T2000/T7000
T28D	12	½	-08	350	5100	6000 series	L000-08	T2000/T7000
T210D	16	5/8	-10	250	3600	6000 series	L000-10	T2000/T7000
T212D	19	¾	-12	215	3100	6000 series	L000-12	T2000/T7000
T216D	25	1	-16	175	2500	6000 series	L000-16	T2000/T7000
T220D	31	1 ¼	-20	140	2000	6000 series	L000-20	T2000/T7000
T224D	38	1 ½	-24	100	1450	6000 series	B000-24	T2000/T7000
T232D	51	2	-32	90	1305	6000 series	B000-32	T2000/T7000
T240D	63	2 ½	-40	70	1000	-	-	12000-40
Tube: Black, oil resistant synthetic rubber(Nitrile)								
Reinforcement: Two braids of high tensile steel wire								
Temperature range: -40°C to +100°C								
Note: When using B series field attachable couplings on T2D series hose, cover of hose must be skived at ends.								



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T2S	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
T24S	6	¼	-04	420	6000	T2000
T26S	10	3/8	-06	350	5100	T2000/T7000
T28S	12	½	-08	350	5100	T2000/T7000
T210S	16	5/8	-10	250	3600	T2000/T7000
T212S	19	¾	-12	215	3100	T2000/T7000
T216S	25	1	-16	175	2500	T2000/T7000
T220S	31	1 ¼	-20	140	2000	T2000/T7000
T224S	38	1 ½	-24	100	1450	T2000/T7000
T232S	51	2	-32	90	1300	T2000/T7000
Tube: Black, oil resistant synthetic rubber(Nitrile)						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						

T2E	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
T24E	6	¼	-04	420	6000	T2000
T25E	8	5/16	-05	350	5100	T2000
T26E	10	3/8	-06	350	5100	T2000/T7000
T28E	12	½	-08	350	5100	T2000/T7000
T210E	16	5/8	-10	250	3600	T2000/T7000
T212E	19	¾	-12	215	3100	T2000/T7000
T216E	25	1	-16	175	2500	T2000/T7000
T220E	31	1 ¼	-20	140	2000	T2000/T7000
T224E	38	1 ½	-24	100	1450	T7000
T232E	51	2	-32	90	1300	T7000
T240E	63	2 ½	-40	70	1000	12000
Tube: Oil resistant synthetic rubber(Nitrile)						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T2C	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
T24C	6	¼	-04	420	6000	T2000
T25C	8	5/16	-05	350	5100	T2000
T26C	10	3/8	-06	350	5100	T2000/T7000
T28C	12	½	-08	350	5100	T2000/T7000
T210C	16	5/8	-10	250	3600	T2000/T7000
T212C	19	¾	-12	215	3100	T2000/T7000
T216C	25	1	-16	175	2500	T2000/T7000
T220C	31	1 ¼	-20	140	2000	T2000/T7000
T224C	38	1 ½	-24	100	1450	T2000/T7000
T232C	51	2	-32	90	1300	T2000/T7000

Tube: Black, specially formulated oil resistant synthetic rubber

Reinforcement: Two braids of high tensile steel wire

Temperature range: -50°C to +100°C



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

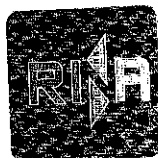
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Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T5	Hose size			Max.working pressure		Coupling			
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive V series			Bitelok non-skive one-piece crimp
						Insert	Ferrule	Coupling	
T54	5	3/16	-04	210	3050	6xx-03	V000-04	Vxx-03	T4000-3
T55	6	¼	-05	210	3050	6xx-04	V000-05	Vxx-04	T4000-4
T56	8	5/16	-06	155	2250	6xx-05	V000-06	Vxx-05	T4000-5
T58	10	13/32	-08	138	2000	6xx-06	V000-08	Vxx-06	T4000-6
T510	12	½	-10	121	1750	6xx-08	V000-10	Vxx-08	T4000-8
T512	16	5/8	-12	103	1500	6xx-10	V000-12	Vxx-10	T4000-10
T516	22	7/8	-16	55	800	6xx-14	V000-16	Vxx-14	T4000-14
T520	28	1 1/8	-20	43	625	6xx-18	V000-20	Vxx-18	T4000-18
T524	35	1 3/8	-24	35	500	6xx-22	V000-24	Vxx-22	T4000-22
T532	46	1 13/16	-32	24	350	6xx-29	V000-32	Vxx-29	T4000-29
Tube: Black, oil resistant synthetic rubber(Nitrile)									
Reinforcement: Polyester inner braid covered with one braid of high tensile steel wire									
Temperature range: -40°C to +100°C									

D2B	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
D224B	38	1 ½	-24	100	1450	T2000/T7000
D232B	51	2	-32	90	1300	T2000/T7000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +121°C(for Air) -40°C to +135°C(for Oil)						



San Diego

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

BT1	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive K series		Bitelok non- skive one-piece crimp
						Insert	Ferrule	
BT14	6	¼	-04	50	725	6000	K000	T2000
BT15	8	5/16	-05	50	725	6000	K000	T2000
BT16	10	3/8	-06	50	725	6000	K000	T2000
BT18	12	½	-08	50	725	6000	K000	T2000
BT110	16	5/8	-10	50	725	6000	K000	T2000
BT112	20	¾	-12	50	725	6000	K000	T2000
BT116	25	1	-16	50	725	6000	K000	T2000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +100°C(for Ethanol blends, Biodiesel, Diesel fuel)

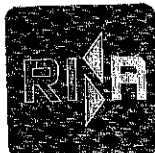
-40°C to +80°C(for Water, Water Emulsions)

-40°C to +135°C(for Petroleum base hydraulic fluids, Lubricating oils)

-40°C to +120°C(for Engine oils)

-20°C to +100°C(for Unleaded petrol/Gasoline, Jet fuel JP8, Kerosene)

-40°C to +121°C(for Air)



Sunbar

TYPE APPROVAL CERTIFICATE

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Hose Series

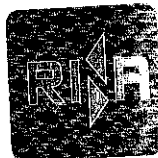
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Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

M2	Hose size			Max.working pressure		Coupling		
	DN	INCH	DASH	BAR	PSI	Field attachable non-skive K series		Bitelok non-skive one-piece crimp
						Insert	Ferrule	
M24	6	¼	-04	88	1250	6000 series	M000-04	T4000
M26	10	3/8	-06	79	1125	6000 series	M000-06	T4000
M28	12	½	-08	70	1000	6000 series	M000-08	T4000
M212	19	¾	-12	52	750	6000 series	M000-12	T4000
Tube: Black, oil resistant synthetic rubber(Nitrile)								
Reinforcement: Two textile braids								
Temperature range: -40°C to +100°C								

RTH1	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	one-piece crimp	Bitelok two-piece crimp
RTH14	6	¼	-04	170	2450	TT000	1100 series
RTH16	10	3/8	-06	165	2375	TT000	1100 series
RTH18	12	½	-08	120	1750	TT000	1100 series
RTH110	16	5/8	-10	105	1500	TT000	1100 series
RTH112	19	¾	-12	85	1250	TT000	1100 series
RTH116	25	1	-16	55	800	TT000	1100 series
Tube: TEFLON(PTFE)							
Reinforcement: One braid of high tensile 304 stainless steel wire							
Temperature range: -60°C to +260°C							



SunBarz

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

SR	Hose size			Max.working pressure	
	DN	INCH	DASH	BAR	PSI
SR12	19	¾	-12	21	300
SR16	25	1	-16	17	250
SR40	63	2 ½	-40	4.3	62
SR48	76	3	-48	3.9	56
Tube: Black, oil resistant synthetic rubber(Nitrile)					
Reinforcement: Textile reinforcement with spiral wire to prevent collapsing					
Temperature range: -40°C to +100°C					

SRF	Hose size			Max.working pressure	
	DN	INCH	DASH	BAR	PSI
SRF12	19	¾	-12	21	300
SRF16	25	1	-16	17	250
SRF20	31	1 ¼	-20	14	200
SRF24	38	1 ½	-24	10	150
SRF32	51	2	-32	7	100
Tube: Black, oil resistant synthetic rubber(Nitrile)					
Reinforcement: Textile reinforcement with spiral wire to prevent collapsing					
Temperature range: -40°C to +100°C					



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TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

DK1D	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DK14D	6	¼	-04	295	4280	T2000
DK15D	8	5/16	-05	250	3625	T2000
DK16D	10	3/8	-06	230	3340	T2000
DK18D	12	½	-08	200	2900	T2000
DK110D	16	5/8	-10	150	2175	T2000
DK112D	19	¾	-12	125	1815	T2000
DK116D	25	1	-16	110	1600	T2000
DK120D	31	1¼	-20	100	1450	T2000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +100°C

DK1E	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DK14E	6	¼	-04	295	4280	T2000
DK15E	8	5/16	-05	250	3625	T2000
DK16E	10	3/8	-06	230	3340	T2000
DK18E	12	½	-08	200	2900	T2000
DK110E	16	5/8	-10	150	2175	T2000
DK112E	19	¾	-12	125	1815	T2000
DK116E	25	1	-16	110	1600	T2000
DK120E	31	1¼	-20	100	1450	T2000

Tube: Black, oil resistant synthetic rubber

Reinforcement: One braid of high tensile steel wire

Temperature range: -40°C to +100°C



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TYPE APPROVAL CERTIFICATE

No. MAC16022WS

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

DK1S	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
DK14S	6	¼	-04	295	4280	T2000
DK15S	8	5/16	-05	250	3625	T2000
DK16S	10	3/8	-06	230	3340	T2000
DK18S	12	½	-08	200	2900	T2000
DK110S	16	5/8	-10	150	2175	T2000
DK112S	19	¾	-12	125	1815	T2000
DK116S	25	1	-16	110	1600	T2000
DK120S	31	1¼	-20	100	1450	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: One braid of high tensile steel wire						
Temperature range: -40°C to +100°C						

DK2D	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	Bitelok non-skive one-piece crimp
DK24D	6	¼	-04	450	6525	T2000
DK25D	8	5/16	-05	420	6100	T2000
DK26D	10	3/8	-06	385	5590	T2000
DK28D	12	½	-08	345	5000	T2000
DK210D	16	5/8	-10	290	4210	T2000
DK212D	19	¾	-12	280	4100	T2000
DK216D	25	1	-16	200	2900	T2000
DK220D	31	1¼	-20	175	2540	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						



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No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

DK2E	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DK24E	6	¼	-04	450	6525	T2000
DK25E	8	5/16	-05	420	6100	T2000
DK26E	10	3/8	-06	385	5590	T2000
DK28E	12	½	-08	345	5000	T2000
DK210E	16	5/8	-10	290	4210	T2000
DK212E	19	¾	-12	280	4100	T2000
DK216E	25	1	-16	200	2900	T2000
DK220E	31	1¼	-20	175	2540	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						

DK2S	Hose size			Max.working pressure		Coupling Bitelok non-skive one-piece crimp
	DN	INCH	DASH	BAR	PSI	
DK24S	6	¼	-04	450	6525	T2000
DK25S	8	5/16	-05	420	6100	T2000
DK26S	10	3/8	-06	385	5590	T2000
DK28S	12	½	-08	345	5000	T2000
DK210S	16	5/8	-10	290	4210	T2000
DK212S	19	¾	-12	280	4100	T2000
DK216S	25	1	-16	200	2900	T2000
DK220S	31	1¼	-20	175	2540	T2000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Two braids of high tensile steel wire						
Temperature range: -40°C to +100°C						



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TYPE APPROVAL CERTIFICATE

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

SRX	Hose size			Max.working pressure		Coupling
	DN	INCH	DASH	BAR	PSI	
						Bitelok non-skive one-piece crimp
SRX12	19	¾	-12	21	305	T4000
SRX16	25	1	-16	17	247	T4000
SRX20	31	1¼	-20	14	203	T4000
SRX24	38	1½	-24	11	145	T4000
SRX32	51	2	-32	7	102	T4000
SRX40	63	2½	-40	4	58	T4000
SRX48	76	3	-48	4	58	T4000
Tube: Black, oil resistant synthetic rubber						
Reinforcement: Textile reinforcement with spiral wire to prevent collapsing						
Temperature range: -20°C to +82°C						

TXA2D	Hose size			Max.working pressure		Coupling	
	DN	INCH	DASH	BAR	PSI	Non-skive one- piece crimp	Field attachable non-skive
TXA28D	12	½	-8	375	5440	T2000/T7000	6000(L000)
TXA210D	16	5/8	-10	350	5100	T2000/T7000	6000(L000)
TXA212D	19	¾	-12	313	4530	T2000/T7000	6000(L000)
TXA216D	25	1	-16	225	3250	T2000/T7000	6000(L000)
Tube: Black, oil resistant synthetic rubber							
Reinforcement: Two braids of high tensile steel wire							
Temperature range: -40°C to +100°C							

3. Coupling material

- Carbon steel AISI/SAE 12L14, 1010, 1020, 1040, 1045(Standard)
- Electroplated Fe/Zn12c acc. to AS1789
- Stainless Steel 316 ASTM A276 or equivalent(Option)



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TYPE APPROVAL CERTIFICATE

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Test Reports:

1.General

- Test carried out: fire resistance, dimensional control and physical, impulse, burst tests and low temperature flexibility, vacuum resistance, fluid resistance and ozone resistance tests.

2.Reports in details

- Fire resistance test:

Test Specimen	Test Certificate No.	Date
DF26E	RH-FT-74	23/09/2010
DF28E	RH-FT-75	23/09/2010
DF212E	RH-FT-76	23/09/2010
DIEHARD H12A	RH-FT-54	06/06/2004
SLIDER H12S	RH-FT-33	29/11/2005
DIEHARD H12D	RH-FT-11	21/07/2005
AVENGER H13A	RH-FT-49	06/04/2004
AVENGER H13D	RH-FT-57	07/04/2004
AVENGER H13	RH-FT-30	17/11/2005
DIEHARD H15D	RH-FT-58	07/04/2006
	RH-FT-41	30/11/2005
SURVIVOR RQP1	RH-FT-22	17/11/2005
	RH-FT-23	16/11/2005
	RH-FT-24	16/11/2005
SURVIVOR RQP2	RH-FT-35	29/11/2005
	RH-FT-25	16/11/2005
	RH-FT-40	30/11/2005
SURVIVOR RQP5	RH-FT-47	09/02/2006
	RH-FT-21	15/11/2005
	RH-FT-20	16/11/2005
TEFLON RTH14	RH-FT-18	16/11/2005
TEFLON RTH18	RH-FT-17	15/11/2005
TEFLON RTH16	RH-FT-19	15/11/2005
SUCTION SR	RH-FT-60	07/04/2006
	RH-FT-61	07/04/2006
	RH-FT-62	07/04/2006



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Test Specimen	Test Certificate No.	Date
DF14E	RH-FT-72	23/09/2009
DF18E	RH-FT-73	23/09/2009
FIRE SUPPRESSION T1F	RH-FT-29	17/11/2005
	RH-FT-31	29/11/2005
	RH-FT-32	29/11/2005
T14E	RH-FT-77	23/09/2009
T18E	RH-FT-78	22/09/2009
T112E	RH-FT-82	23/09/2009
SLIDER T2S	RH-FT-43	09/02/2006
	RH-FT-42	09/02/2006
	RH-FT-44	09/02/2006
T24E	RH-FT-79	23/09/2009
T26E	RH-FT-80	23/09/2009
T212E	RH-FT-81	22/09/2009
T3K4D	RH-FT-66	09/09/2009
T3K8D	RH-FT-67	10/10/2009
T3K12D	RH-FT-68	09/09/2009
TEFLON RTH18	RH-FT-17	15/11/2005
TEFLON RTH14	RH-FT-18	16/11/2005
TEFLON RTH16	RH-FT-19	16/11/2005
M2	RH-FT-27	16/11/2005
	RH-FT-27	16/11/2005
D224B	IRH-FT-003/13	17/03/13



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Hose Series

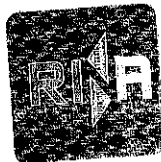
(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

- Dimensional control and physical test:

Test Specimen	Test Certificate No.	Date
ADVANTAGE DF24E	-	08/09/2010
ADVANTAGE DF26E	-	08/09/2010
ADVANTAGE DF28E	-	08/09/2010
ADVANTAGE DF210E	-	08/09/2010
ADVANTAGE DF212E	-	08/09/2010
ADVANTAGE DF216E	-	08/09/2010
SR16	-	08/10/2012
SR40	-	08/10/2012
SRF20	-	08/10/2012
SRF24	-	08/10/2012
SRF32	-	08/10/2012
ADVANTAGE DF14E	-	08/09/2010
ADVANTAGE T18E	-	08/09/2010
ADVANTAGE T116E	-	08/09/2010
ADVANTAGE T132E	-	08/09/2010
ADVANTAGE T24E	-	08/09/2010
ADVANTAGE T26E	-	08/09/2010
ADVANTAGE T28E	-	08/09/2010



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Test Specimen	Test Certificate No.	Date
ADVANTAGE T210E	-	08/09/2010
ADVANTAGE T212E	-	08/09/2010
ADVANTAGE T216E	-	08/09/2010
ADVANTAGE T220E	-	08/09/2010
AVENGER H3024A	-	27/08/2012
DIEHARD H3024D	-	27/08/2012
SLIDER H3024S	-	27/08/2012
AVENGER H4010A	-	27/08/2012
DIEHARD H4010D	-	27/08/2012
SLIDER H4010S	-	27/08/2012
AVENGER H4012A	-	27/08/2012
DIEHARD H4012D	-	27/08/2012
SLIDER H4012S	-	27/08/2012
AVENGER H4016A	-	27/08/2012
DIEHARD H4016D	-	27/08/2012
SLIDER H4016S	-	27/08/2012
AVENGER H5012A	-	27/08/2012
DIEHARD H5012D	-	27/08/2012
SLIDER H5012S	-	27/08/2012
AVENGER H5020A	-	27/08/2012
DIEHARD H5020D	-	27/08/2012
SLIDER H5020S	-	27/08/2012
AVENGER H6012A	-	27/08/2012
DIEHARD H6012D	-	27/08/2012
SLIDER H6012S	-	27/08/2012
AVENGER H6032A	-	27/08/2012
DIEHARD H6032D	-	27/08/2012
SLIDER H6032S	-	27/08/2012



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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Test Specimen	Test Certificate No.	Date
AVENGER T3004A	-	27/08/2012
AVENGER T3012A	-	27/08/2012
AVENGER T4004A	-	27/08/2012
AVENGER T4006A	-	27/08/2012
AVENGER T4012A	-	27/08/2012
AVENGER T5006A	-	27/08/2012
AVENGER T6006A	-	27/08/2012
DRILLER D224B	-	31/08/2012
BIOTRANS BT14	-	30/08/2012
BIOTRANS BT16	-	30/08/2012
BIOTRANS BT18	-	30/08/2012
BIOTRANS BT112	-	30/08/2012
DIEHARD T3004D	-	27/08/2012
SLIDER T3004S	-	27/08/2012
DIEHARD T3005D	-	27/08/2012
SLIDER T3005S	-	27/08/2012
DIEHARD T3010D	-	27/08/2012
SLIDER T3010S	-	27/08/2012
DIEHARD T3012D	-	27/08/2012
SLIDER T3012S	-	27/08/2012
DIEHARD T4004D	-	27/08/2012
SLIDER T4004S	-	27/08/2012
DIEHARD T4006D	-	27/08/2012
SLIDER T4006S	-	27/08/2012
DIEHARD T4012D	-	27/08/2012
SLIDER T4012S	-	27/08/2012
DIEHARD T5006D	-	27/08/2012
SLIDER T5006S	-	27/08/2012
DIEHARD T6006D	-	27/08/2012
SLIDER T6006S	-	27/08/2012
T14F	-	30/03/2012
T18F	-	06/09/2012
T116F	-	06/09/2012
T24S	-	30/12/2011
T28S	-	23/06/2012



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TYPE APPROVAL CERTIFICATE

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Hose Series

**(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF,
M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)**

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

- Impulse test:



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TYPE APPROVAL CERTIFICATE

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Test Specimen	Test Certificate No.	Date
AVENGER DF26A	MP2-1081A	21/05/2012
AVENGER DF212A	MP2-1080A	21/05/2012
DIEHARD H1206D	MP3-0410	30/08/2012
H1212D	KP 047/12	12/08/2012
AVENGER H1224A	MP1-1289	05/07/2012
AVENGER H1316A	MP3-0367	20/02/2012
DIEHARD H1324D	MP1-1269	06/03/2012
AVENGER H1512	MP1-1249	28/10/2011
DIEHARD H1520D	MP3-0393	04/07/2012
H1524D	2764i	19/12/2005
RQP112	2671i	22/03/2007
SURVIVOR RQP14	MP4-0020A	06/07/2012
SURVIVOR RQP18	MP4-0023	13/07/2012
RQP24	2775i	17/09/2007
RQP220	2646j	18/03/2007
SURVIVOR RQP216	MP3-397	27/07/2012
SURVIVOR RQP28	MP4-0026A	02/08/2012
TRUCKER T54	MP4-0045A	03/10/2012
SURVIVOR RQP55	MP3-0401	06/08/2012
TRUCKER T58	MP2-1108A	04/10/2012
SURVIVOR RQP510	MP3-0402	09/08/2012
T14A	XP3 010/11	21/02/2011
AVENGER T18D	MP2-1083A	24/05/2012
AVENGER T112A	MP3-325	02/09/2011
AVENGER T124A	MP1-1238	26/08/2011
T24A	KP2 061/11	10/07/2011
T28A	KP2 029/11	11/04/2011
T224A	MP1-1278	15/05/2012
AVENGER T3K4A	KP1 002/09	23/02/2009
T3K6A	3249i	20/02/2009
T3K10A	3244i	12/03/2009
AVENGER T3K6A	MP2-1067	16/04/2012
AVENGER T3K12A	MP4-0029	03/08/2012
RTH14	MP4-0096A	22/05/2013
RTH18	MP4-0098	22/05/2013



Signature

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

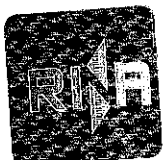
Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

RTH112	MP4-0099	22/05/2013
M24	MP4-0102	03/06/2013
M28	MP4-0103	03/06/2013

• **Burst test:**

Test Specimen	Test Certificate No.	Date
DF14E	EB001/KK	23/09/2010
T216D	EB001/KK	23/09/2010
TXA220D	EB001/KK	23/09/2010
TXA210D	EB001/KK	23/09/2010
DF14A/DF16A	RH-BT-001/13	15/03/2013
RQP516, T524, M24, H6006A, H6012A, H6032D, RQP65, RQP610, BT14, PL15, PL110, TJ24D, H4024D, T4012D, H5032A, HSP12A, PW26, H3024A,	5378	20/02/2013



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TYPE APPROVAL CERTIFICATE

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

T3004A, T3006D, T3012D, T4004D, T4006A, T5004S, T5006D, T6004A,T6006D, H3020D, H4008A, H4016D, H5008D, H5012A, H5020A, H6016D, BT16, BT112, DB224, T14D, T18A, T112D, T24S, T28A,T212D, RQP14, RQP18, RQP24,RQP28, DF26A, DF212A, EC8, T58,T18F, T14F, RQP112, T55, T24S,T124A, EC6, RQP55, E26, E212,H1208A, H1224A, H1212S, H1312D,H1312A, H1332A, H1232D, T3K12A, T3K6A, T224A, RQP216, RTH16, RTH112, T510, M28, M212, RQP512,H1206D, H1324A, HSP08A, H1512D, H1520D, SRF16, SRF24, RQP510, HSH16A, H1316A, T240A	5158	15/12/2012
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Smilical

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

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Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Application/Limitation:

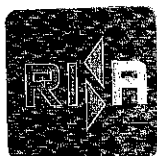
- May be used for the following services on board: fuel oil, lubricating oil, hydraulic oil, compressed air, fresh water, sea water and sanitary.
- Ending fittings as per Manufacturer's catalogue. The hoses are to be entirely assembled in the Manufacturer's work shop.
- The installation of hoses assemblies is to be in accordance with the Manufacturer's instructions to take into consideration forces due to vibration. The hoses are not to be used on services when vibration test is required in the RINA Rules.
- The hoses are to be installed in clearly visible and readily accessible locations at all times.
- Taper threaded end connections are not to be used for oil circuits in engine room nor any place containing an ignition source unless to the satisfaction of the RINA Surveyor.

Remarks:

- The flexible hoses are to be permanently marked by the Manufacturer with the following details:
 - I. hose Manufacturer's name or trademark
 - II. date of manufacture(month/year)
 - III. designation type reference
 - IV. nominal diameter
 - V. maximum design pressure
 - VI. maximum and minimum design temperatures

Where a flexible hose assembly is made up of items from different Manufacturers, the components are to be clearly identified and traceable to evidence of prototype testing.

- Verification of marking for identification and proper installation on board are to the satisfaction of the RINA Surveyor.



Smilial

TYPE APPROVAL CERTIFICATE

No. **MAC160222WS**

Enclosure - Page 40 of 40

Hose Series

(BT1,D2B,T3000/3600/4000/5000/6000,H3000/4000/5000/6000, HSP, R4SP/R4SH,T1, SR/SRF, M2,H12/13/15, T2, DF1/2, RQP1/2/5, T5, RTH1, DK1, DK2, SRX and TXA2D)

Outer Cover Type

(DIEHARD™,SLIDER™,ADVANTAGE™, Other)

Place Of Production:

Production Site	Location	Hose	Hose Couplings	Hose Assemblies	Adaptors
RYCO HYDRAULICS Pty.Ltd.	99 Calarco Drive Derrimut Victoria 3026 Australia		√	√	√
RYCO HYDRAULICS (DaLian) Ltd.	38 Ying Ri Road Ying Cheng Zi Industrial Zone Gan Jing Zi District DALIAN 116036 CHINA		√	√	√
RYCO HYDRAULICS Sdn. Bhd.	Plot 207 Kuala Ketil Industrial Estate 09300 Kuala Ketil Kedah Darulaman MALAYSIA	√		√	
RYCO HYDRAULICS Inc.	1616 Greens Road Houston, Texas, 77032 USA			√	

Genoa July 26, 2022

File Allegato/Attached file



Sanli