

TUBO FLEXIVEL EM AÇO INOX

HYDRA®

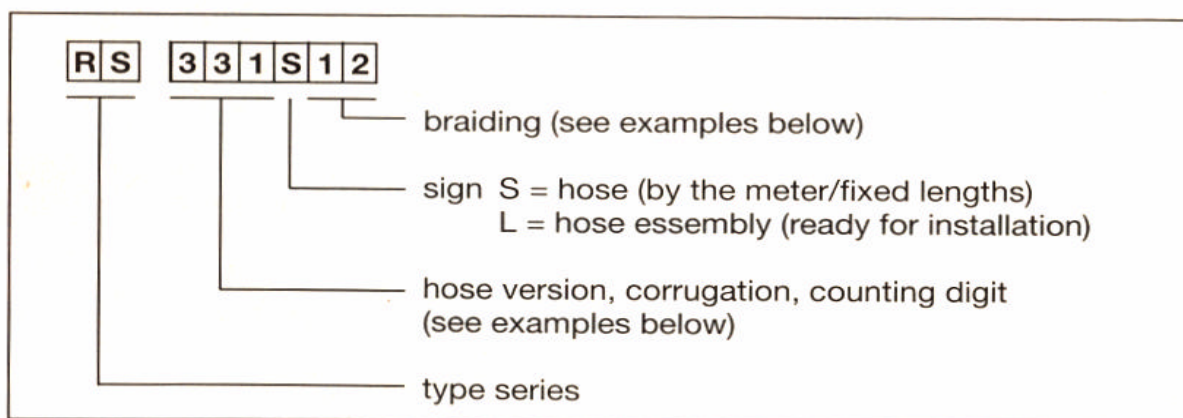
Pressure Hoses

Type Designation

The type designation of a pressure hose consists of two parts

- type series, defined by 2 letters
- hose type, defined by 6 digits, in special cases by 8 digits

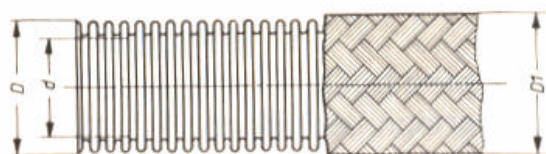
Example:



Designations of Wide-Spread Application (Examples)

Hoses (without braiding)		Braiding	
RS 321	media weight version highly flexible	00	without braiding
RS 331	media weight version standard corrugation	12	single braiding, stainless steel
RS 341	media weight version wide corrugation	13	single braiding, bronze
RS 531/430	heavy weight version standard corrugation	16	single braiding, monel
		22	double braiding, stainless steel
		42	single braiding stainless steel, double
		52	single braiding stainless steel, knurled

Flexible in Steel – WITZENMANN



Type RS 331 (up to DN 50)

RS 330 (from DN 65)

Annularly Corrugated Hoses of Stainless Steel
media weight version, standard corrugation

Construction: annularly corrugated all-metal hose made from a butt-welded tube, with or without braiding

Profile: 

Versions:
RS ...S00 without braiding
RS ...S12 with single stainless steel braiding
RS ...S42 with single knurled stainless steel braiding
RS ...S52 with double knurled stainless steel braiding

Hose Material: non-corroding austenitic steel according to DIN 17441, bright
material no. 1.4541, similar to AISI 321
material no. 1.4571, similar to AISI 316 Ti (from DN 25)
upon request: material no. 1.4435, similar to AISI 316 L

Braiding Material: non-corroding austenitic steel
material no. 1.4301, similar to ISI 304
pon request: material no. 1.4571, similar to AISI 316 Ti

TemperatureRange: -270°C to max. 600°C (only for the hose)

Operating Pressure: The permissible operating pressure indicated in the table refers to static pressure and movement strain at 20°C. See pages 345–347 for reduction factors for dynamic strain and/or higher operating temperatures.

Connection fittings: flanges, threaded fasteners, weld ends and others

Flexible in Steel – WITZENMANN

HYDRA
Type RS 331
**annularly corrugated hoses of stainless steel
medium weight version, standard corrugation**

DN	Type	Interior Dia- meter	Exterior Dia- meter	permiss. deviat.	min. bend. radius r_{min} one bending process	nom. bend. radius r_n frequent bending	permiss. operating pressure p_{zul} at 20 °C	weight approx.	manu- facturing length
		d	D, D1	d, D, D1					
		mm	mm	mm	mm	mm	bar	kg/m	m
6	RS 331S00 RS 331S12	6.2	9.7 10.8	± 0.2	15 25	80	24 198	0.070 0.145	10–100
8	RS 331S00 RS 331S12	8.3	12.3 13.7		16 32	125	17 176	0.085 0.195	
10	RS 331S00 RS 331S12	10.2	14.3 15.7		18 38	130	12 131	0.100 0.215	
12	RS 331S00 RS 331S12	12.2	16.8 18.2		20 45	140	9 93	0.115 0.240	
16	RS 331S00 RS 331S12	16.2	21.7 23.3		28 58	160	7 85	0.175 0.380	
20	RS 331S00 RS 331S12	20.2	26.7 28.3		32 70	170	3,5 57	0.250 0.480	
25	RS 331S00 RS 331S12	25.5	32.2 34.2	± 0.3	40 85	190	3 65	0.335 0.745	
32	RS 331S00 RS 331S12	34.2	41.0 43.0		50 105	260	2.5 46	0.425 0.890	
40	RS 331S00 RS 331S12	40.1	49.7 52.0		60 130	300	2.5 50	0.705 1.39	
50	RS 331S00 RS 331S12	50.4	60.3 62.6	± 0.4	70 160	320	1.6 35	0.890 1.65	

Please quote when ordering:

1. Type of hose, material, nominal diameter (DN), nominal length (NL)
2. Type of connection fittings, material, operating temperature

Flexible in Steel – WITZENMANN
Ecoterme – Equipamentos e Instalações Térmicas, Lda.

RUA DOS SELÕES

CONDOMÍNIO TERRUGEM PARK II, ARMAZÉM B1

Vila Verde

2706-501 TERRUGEM SNT - PORTUGAL

TELF.: 351 21 9605700 (BUSCA AUT.) FAX.: 351 21 9605709

HYDRA
Type RS 330

annularly corrugated hoses of stainless steel
medium weight version, standard corrugation

DN	Type	Interior Dia- meter	Exterior Dia- meter	permiss. deviat.	min. bend. radius r_{min} one bending process	nom. bend. radius r_n frequent bending	permiss. operating pressure p_{zul} at 20 °C	weight approx.	manu- facturing length
		d	D, D1	d, D, D1					
		mm	mm	mm	mm	mm	bar	kg/m	m
65	RS 330S00 RS 330S12	65.4	80.0 83.2	± 0.4	90 200	440	1 30	1.07 2.46	10
80	RS 330S00 RS 330S12	80.2	98.0 101.2	± 0.5	110 240	700	1 32	1.72 3.55	
100	RS 330S00 RS 330S12	100.2	118.0 121.2		130 290	750	0.8 25	1.97 3.99	
125	RS 330S00 RS 330S12	126.2	145.0 148.2	± 0.6	500	1000	0.6 19	2.67 5.24	
150	RS 330S00 RS 330S12 RS 330S42 RS 330S52	151.6	171.0 174.2 174.8 178.8	± 1.4	700	1300	0.5 13 16 16	3.38 6.31 6.68 10.0	
200	RS 330S00 RS 330S42 RS 330S52	200.1	227.0 232.5 238.0	± 1.6	860	1350	0.25 10 12	4.83 9.33 14.0	3.5
250	RS 330S00 RS 330S42 RS 330S52	250.3	280.3 286.0 291.5		1000	1600	0.2 8 12	7.51 12.5 17.6	
300	RS 330S00 RS 330S42 RS 330S52	300.3	333.1 338.7 344.7	± 2.0	1270	2000	0.2 6 10	8.96 14.8 20.8	

Please quote when ordering:

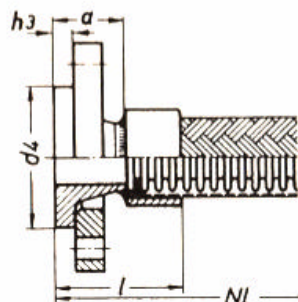
1. Type of hose, material, nominal diameter (DN), nominal length (NL)
2. Type of connection fittings, material, operating temperature

Flexible in Steel – WITZENMANN

HYDRA®

**Type AB12 .
AB22 .
AB82 .**

Connection Fittings for Pressure Hoses



Flange Connection with Swivel Flange

welding collar of steel or stainless steel 1.4541 or 1.4571
loose flange of steel or stainless steel 1.4541 or 1.4571
welded or brazed

Connection Fitting Type				Material		Permissible Operating Temperature
PN 10	PN 16	PN 25	PN 40	welding collar	flange	
AB12D	AB12E	AB12F	AB12G	steel	steel	480 °C
AB82D	AB82E	AB82F	AB82G	stainless steel	steel	480 °C
AB22D	AB22E	AB22F	AB22G	stainless steel	stainless steel	550 °C

dimensions in mm, weight W in kg

DN	10	16	20	25	32	40	50	65	80	100	125	150	200	250	300
d ₄	40	45	58	68	78	88	102	122	138	158	188	212	268	320	370
h ₃	10	10	12	12	12	12	14	14	16	16	18	18	20	22	22
a	35	35	40	40	40	40	45	45	50	50	50	50	55	60	60
l	45	49	56	58	60	62	70	73	80	82	86	90	100	110	115
W approx.	0.70	0.80	1.06	1.43	2.05	2.40	3.02	3.77	4.84	5.60	7.35	8.90	12.90	17.70	23.20

Dimensions according to DIN 2501 for flanges PN 10

selection of material for steels: see »appendix A - Materials«

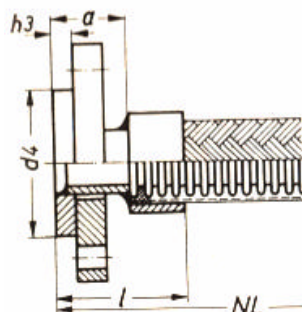
Please quote when ordering: Type of connection fittings, nominal diameter (DN), operating temperature, in case of stainless steel: material no.

Flexible in Steel – WITZENMANN

HYDRA®

**Type BB12 .
BB22 .
BB82 .**

Connection Fittings for Pressure Hoses



Flange Connection with Swivel Flange

collar pipe of steel or stainless steel 1.4541 or 1.4571
loose flange of steel or stainless steel 1.4541 or 1.4571
welded or brazed

Connection Fitting Type				Material		Permissible Operating Temperature
PN 10	PN 16	PN 25	PN 40	collar pipe	flange	
BB12D	BB12E	BB12F	BB12G	steel	steel	480 °C
BB82D	BB82E	BB82F	BB82G	stainless steel	steel	480 °C
BB22D	BB22E	BB22F	BB22G	stainless steel	stainless steel	550 °C

dimensions in mm, weight W in kg

DN	10	16	20	25	32	40	50	65	80	100	125	150	200	250	300
d ₄	40	45	58	68	78	88	102	122	138	158	188	212	268	320	370
h ₃	10	10	12	12	12	12	14	14	16	16	18	18	20	22	22
a	45	45	46	51	51	51	57	57	63	68	79	79	85	85	90
l	55	59	62	69	71	73	82	85	93	100	115	119	130	135	145
W approx.	0.72	0.84	1.08	1.48	2.13	2.46	3.08	3.90	5.00	5.75	8.00	9.80	13.50	18.42	24.30

Dimensions according to DIN 2501 for flanges PN 10

selection of material for steels: see »appendix A - Materials«

Please quote when ordering: Type of connection fittings, nominal diameter (DN), operating temperature, in case of stainless steel: material no.

Flexible in Steel – WITZENMANN

WITZENMANN Quality Assurance

Approvals

General Approvals/Applicability Inspections



Quality Management System according to DIN ISO 9001/EN 29001



Technischer Überwachungs-Verein Südwest e.V.
Audited and certified as manufacture according to AD sheet HPO, WO
and according to TRD 100

Approval of Metal Hoses for Special Fluids

Sewer Gas/Natural Gas/Liquid Gas



DVGW
Deutscher Verein des Gas- und Wasserfaches e.V.



COPZ
Čech Odborníků Plynových Zařízení
The Czech Republic



DG
Danmarks Gasmateriel Prøvning
Denmark



IGNG
Instytut Górnictwa Naftowego i Gazownictwa
Poland



ÖVGW
Österreichische Vereinigung für das Gas- u. Wasserfach
Austria



SVGW
Schweizerischer Verein des Gas- und Wasserfaches
Switzerland



TTK
Teknillinen Tutkimuskeskus
Finland

Other Applications



Ministerium für Arbeit, Gesundheit und Sozialordnung
Baden-Württemberg



BAM
Bundesanstalt für Materialforschung und -prüfung

Flexible in Steel – WITZENMANN

WITZENMANN Quality Assurance

Approval of Metal Hoses for Special Applications

Navigation



GL
Germanischer Lloyd



ABS
American Bureau of Shipping

USA



BV
Bureau Veritas

Belgium



DNV
DET NORSKE VERITAS

Norway



LRS
Lloyd's Register of Shipping

UK



PRS
Polski Rejestr Statków

Poland



RINA
Registro Italiano Navale

Italy

Aviation



BWB
Bundesamt für Wehrtechnik und Beschaffung

Other Applications



VDE Prüf- und Zertifizierungsinstitut



VdS
Verband der Sachversicherer e.V.

Applicability Inspections/Approvals from Producers have been carried out and granted by many companies as e.g. Mercedes Benz, Opel/GM, Renault/P.S.A., Siemens/Field of Power Supply (KWU)

Final Inspections are carried out in respect to each order in cooperation with further inspection companies

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