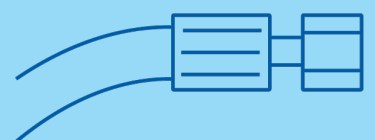


Flexion™

Flexion Enduro™

Flexion Enduro Isobaric

Multispiral Hose



Benefits of the FLEXION ENDURO ISOBARIC hose range

Traditional hydraulic multispiral hoses follow the well known international standards like EN 856 4SP/4SH and SAE 100R13/100R15. These standards have strict dimensional diameter tolerances and dictate the type and number of reinforcement layers. The more recent international standard ISO 18752 leaves out these restrictions and allows the development of more compact and lighter hoses, leading to strongly improved performance.

Clear benefits from the new hose constructions are;

- More compact, lighter weight per meter
- Smaller bend radius can be applied
- Uses less meters on a machine at a lower weight/meter; more economical and double weight saving
- Improved flexibility for easy handling and easy installation
- Overall; allows for lower weight, compact and economical hydraulic equipment designs, without compromising technical performance – on the contrary



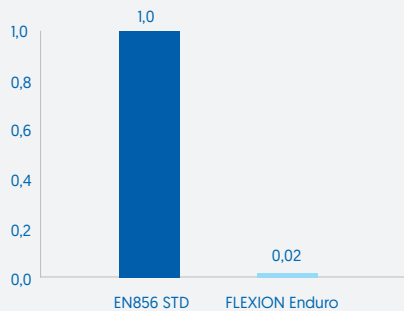


For our FLEXION assortment we have decided to add these hoses to our upgraded ENDURO family of “problem solvers”, offering the best field service life even under extremely harsh conditions;

- Cover abrasion resistance 50 times better than standard (old ENDURO was 10 times standard)
- Cover ozone resistance 10 times better than standard
- Dynamic impulse pressure life of 1 million when tested to ISO 6803 for hoses with Interlock fitting
- The new hoses have been qualified in a rigorous test program, using the same Zinc-Nickel plated hose fittings as before, only for 6 hoses new crimp ferrule were introduced
- Old style FLEXION 4SP and 4SH did not have ENDURO performance
- We keep the full NBR inner tube material for excellent (bio)oil resistance
- Now we have a perfect match with our braided hose types H204E and H104E, and can cover all pressure circuits on a machine with high performing ENDURO hoses

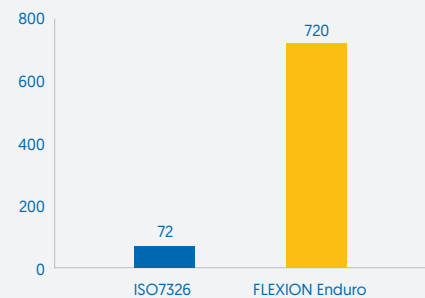
Abrasion resistance

Gram weight loss
50N/2000cycles



Ozone resistance

Hours to the red corrosion



The new FLEXION ENDURO ISOBARIC hose and fitting assortment

The ISO 18752 specifies several ranges of ISOBARIC multispiral hoses, divided into constant pressure classes. This is similar to SAE 100R13/100R15, only in this case the pressure classes are expressed in BAR instead of PSI. For instance a 420 BAR isobaric hose range is called ISO CLASS 420. The new FLEXION ISOBARIC range according to ISO 18752 consists of the following hoses and matching FLEXION crimp fittings;

ISO Pressure Class	FLEXION Enduro Isobaric	DN	Type Of Reinforcement	FLEXION Fitting Family	FLEXION Crimp Ferrule	Replaces Type	Replaces Old FLEXION
Class 280	H475E-16	25	4-spiral	Standard	ZFA4016	4SP	H420-16
Class 280	H475E-24	38	4-spiral	Standard	ZHA4216		
Class 280	H475E-32	51	4-spiral	tba	tba	4SH	H430-32
Class 350	H685E-10	16	4-spiral	Standard	ZFA4410	4SP	H420-10
Class 350	H685E-12	19	4-spiral	Standard	ZFA4012	4SP	H420-12
Class 350	H685E-16	25	4-spiral	Interlock	ZHA4216		
Class 350	H685E-20	31	4-spiral	Interlock	ZHA4220	4SH	H430-20
Class 420	H695E-06	10	4-spiral	Standard	ZFA44-06		
Class 420	H695E-08	12	4-spiral	Standard	ZFA44-08		
Class 420	H695E-10	16	4-spiral	Interlock	ZHA6210		
Class 420	H695E-12	19	4-spiral	Interlock	ZHA4212	4SH	H430-12
Class 420	H695E-16	25	4-spiral	Interlock	ZHA4216	4SH	H430-16
Class 420	H695E-20	31	6-spiral	Interlock	ZHA6620	R15	H665E-20
Class 420	H695E-24	38	6-spiral	Interlock	ZHA6624	R15	H665E-24

Technical data overview for the hoses

ISO Pressure Class	FLEXION Enduro Isobaric	DN Type Of Reinforcement FLEXION Fitting Family			Outer Diameter [mm]	Max. Working Pressure [bar]	Min. Burst Pressure [bar]	Min. Bend Radius [mm]	Weight [kg/m]
		DN	INCH	SIZE					
Class 280	H475E-16	25	1"	16	36.7	280	1120	150	1.62
Class 280	H475E-24	38	1.1/2"	24	52.1	280	1120	250	2.95
Class 280	H475E-32	51	2"	32	tba	280	1120	tba	tba
Class 350	H685E-10	16	5/8"	10	26.3	350	1400	100	0.94
Class 350	H685E-12	19	3/4"	12	29.7	350	1400	120	1.13
Class 350	H685E-16	25	1"	16	36.7	350	1400	150	1.62
Class 350	H685E-20	31	1.1/4"	20	45.0	350	1400	210	2.45
Class 420	H695E-06	10	3/8"	06	19.7	420	1680	65	0.66
Class 420	H695E-08	12	1/2"	08	22.5	420	1680	90	0.77
Class 420	H695E-10	16	5/8"	10	26.2	420	1680	100	0.94
Class 420	H695E-12	19	3/4"	12	30.6	420	1680	120	1.39
Class 420	H695E-16	25	1"	16	37.6	420	1680	150	1.94
Class 420	H695E-20	31	1.1/4"	20	47.8	420	1680	210	3.46
Class 420	H695E-24	38	1.1/2"	24	56.0	420	1680	250	4.42

Typical markets and applications for the the new FLEXION ENDURO ISOBARIC hose range

Hydraulic multi-spiral reinforced hoses in general are suitable for the more heavy applications, both in mobile and industrial equipment.

In this case heavy means

- High pressure, often combined with large bore - for high power transmission rates
- Demanding dynamic pressure applications with high amounts of pressure cycles
- Applications with long service hours – 8 hours per day or more
- Applications where a more rugged hose is required due to mechanical external loads such as pulling, kinking, pinching, etc.
- The premium FLEXION ENDURO performance adds to this;
- Exceptional resistance to external loads such as mechanical abrasion and ozone
- Improved dynamic impulse life when used with Interlock fittings

This means that the FLEXION ENDURO hoses will perform better in heavy applications, achieving a longer service life and offering higher reliability when compared to standard spiral hoses.

Typical heavy mobile applications

- Earth moving machinery
- Heavy drilling and hammering equipment
- Self-driving agricultural equipment
- Mining equipment
- Offshore lifting and handling equipment

Typical heavy industrial applications

- Steel industry
- Large size injection molding equipment
- Large presses and cutting/stamping equipment
- Testing and simulation equipment



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