

BUREAU  
VERITAS

INDUSTRY &amp; FACILITIES

**FACTORY AUDIT REPORT n° 28/X52/1/12225185/1001-01***Rapport d'audit de l'usine ou de l'unité de fabrication***1. General**Name and address of the factory**CST FLUIDOS S.L.**

C/ Resina, 14 Bloque A Nave 1 - 28021 Madrid (SPAIN)

Manufactured products (designation & references)**Hydraulic hose assemblies according to standards EN 853 (type 1SN, 2SN, R1AT & R2AT), EN 854 (type 2TE), EN 855 (type R7 & R8), EN 856 (type 4SP, 4SH & R13) and EN 857 (type 1SC & 2SC).**

Hose assembly type 1SN	Hose assembly type 2SN	Hose assembly type R1AT	Hose assembly type R2AT	Hose assembly type 2TE	Hose assembly type R7
Product code	Product code	Product code	Product code	Product code	Product code
1SN 1/4	2SN 1/4	R1AT 1/4	R2AT 1/4	2TE 1/4	R7 1/4
1SN 5/16	2SN 5/16	R1AT 5/16	R2AT 5/16	2TE 5/16	R7 5/16
1SN 3/8	2SN 3/8	R1AT 3/8	R2AT 3/8	2TE 3/8	R7 3/8
1SN 1/2	2SN 1/2	R1AT 1/2	R2AT 1/2	2TE 1/2	R7 1/2
1SN 3/4	2SN 3/4	R1AT 3/4	R2AT 3/4	2TE 3/4	R7 3/4
1SN 1 (DN25)	2SN 1 (DN25)	R1AT 1 (DN25)	R2AT 1 (DN25)	2TE 1 (DN25)	R7 1 (DN25)
1SN 1 1/4 (DN31)	2SN 1 1/4 (DN31)	R1AT 1 1/4 (DN31)	R2AT 1 1/4 (DN31)	2TE 1 1/4 (DN31)	---
1SN 1 1/2 (DN38)	2SN 1 1/2 (DN38)	R1AT 1 1/2 (DN38)	R2AT 1 1/2 (DN38)	2TE 1 1/2 (DN38)	---

Hose assembly type R8	Hose assembly type 4SP	Hose assembly type 4SH	Hose assembly type R13	Hose assembly type 1SC	Hose assembly type 2SC
Product code	Product code	Product code	Product code	Product code	Product code
R8 1/4	4SP 1/4	4SH 1/4	R13 1/4	1SC 1/4	2SC 1/4
R8 5/16	4SP 5/16	4SH 5/16	R13 5/16	1SC 5/16	2SC 5/16
R8 3/8	4SP 3/8	4SH 3/8	R13 3/8	1SC 3/8	2SC 3/8
R8 1/2	4SP 1/2	4SH 1/2	R13 1/2	1SC 1/2	2SC 1/2
R8 3/4	4SP 3/4	4SH 3/4	R13 3/4	1SC 3/4	2SC 3/4
R8 1 (DN25)	4SP 1 (DN25)	4SH 1 (DN25)	R13 1 (DN25)	1SC 1 (DN25)	2SC 1 (DN25)
---	4SP 1 1/4 (DN31)	4SH 1 1/4 (DN31)	R13 1 1/4 (DN31)	1SC 1 1/4 (DN31)	2SC 1 1/4 (DN31)
---	4SP 1 1/2 (DN38)	4SH 1 1/2 (DN38)	R13 1 1/2 (DN38)	1SC 1 1/2 (DN38)	2SC 1 1/2 (DN38)

List of standards and specifications

Standard EN 853 (see ISO1463) for hose assembly type 1SN, 2SN, R1AT and R2AT

Standard EN 854 (see ISO4079) for hose assembly type 2TE

Standard EN 855 (see ISO394) for hose assembly type R7 and R8

Standard EN 856 (see ISO3862) for hose assembly type 4SP, 4SH and R13

Standard EN 857 (see ISO11237) for hose assembly type 1SC and 2SC

Production rate

Approximately 15000 hose assemblies per year (only hose assemblies)





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### Number of shifts

1 shift

### Number of workers (total number)

6

### Years of experience in manufacturing the above product

45 years

### Statutory approvals for the product

No statutory approvals for the hose assemblies

### Quality System Certification in force

ISO9001:2015, LRQA certificate nr. 10413933. Scope: Assembly, repair and marketing of flexible high-pressure hoses for the railway sector and industry in general. Storage and marketing of industrial hoses, accessories for the hydraulic and pneumatic industry, plates and rubber products.

## **2. Manufacturing facilities**

### Description of each workstation

After review of technical requirements and applicable regulations:

1. Material reception
2. Hose cutting
3. Hose peeling - manual (if applies)
4. Hose, Pressable cap and fitting assembly
5. Visual and dimensional control
6. Pressure testing
7. Marking

### List of the equipment of the laboratory and test benches

- 1.- Pressure testing test bench HASKEL MS-110 (serial number 6170781-6)

### List of subcontracted services

When required by technical specifications or customer requirements:

HANSA-FLEX (manufactured flexible pressure hoses)

HINE (manufactured flexible pressure EATON/PARKER hoses and fittings)





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**3. Verifications**

VERIFICATIONS	(Yes/No/NA)
The quality system is certified (attach certificate)	Yes
The production planning process is updated regularly	NA
The inspection department of the manufacturer is organized as per ISO 17020	NA
The inspection plan incorporates the requirements of the standard and of the specification	Yes
Night shift production is under control of the Quality Control Department	NA
For each workstation, the level of mechanization is sufficient to ensure homogeneous production (indicate the type and the number of machines for each)	Yes



**Hose cutting**

- *Manual cutting machine OP srl. Model: TF2, sn: 001617*

**Hose, Pressable cap and fitting assembly**

- *Crimping machine FINN POWER P32MS, sn: 1.2-32MS-422100*

**Dimensional control**

- *Digital caliper POWERFIX PROFI model Z22855 (uncertainty 0,01mm), sn: IAN107580*

**Marking**

- *Automatic marker TECHNIFOR PROPEN P3000/d PN, sn: P3000-05-01-05990*

**Pressure testing**

- *Test bench HASKEL MS-110, sn 6170781-6*

BUREAU VERITAS INSPECCIÓN Y TESTING S.L. Unipersonal – Camí Can Ametller, 34 Edificio Bureau Veritas, 08195 Sant Cugat del Vallés - Barcelona Spain – C.I.F. B08658601

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VERIFICATIONS	(Yes/No/NA)
The batch and inspection lot definitions take into account the actual production equipment	NA
All special processes are qualified and recorded	Yes
<i>Comments: Pressure test</i>	
Competences and compliance of subcontractors are under Quality Assurance Department control	Yes
Assessment of the results of subcontractors activities are recorded and updated	Yes
Records are legible and allow satisfactory follow-up of the operations	Yes
The measurement devices are suitable and their uncertainty is known (attach list of main devices with their uncertainty)	Yes
The test benches allow unattended surveillance by the BV inspector	NA
The acceptability criteria for each measure specified by the standard are defined and take the uncertainty into account	Yes
The production of the series for type testing has been witnessed	Yes
Samples for the type test have been selected by the BV inspector	Yes
Testing was witnessed by the BV Auditor at the manufacturer's laboratory	Yes
Testing was witnessed by the BV Auditor at the subcontracted laboratory of ...:	NA
<i>Comments: NA</i>	
Certification of this subcontracted laboratory has been checked	NA
Final inspection plans are properly managed	Yes

**4. Conclusion**

The above verifications have been performed by the undersigned Auditor to Bureau Veritas.

This report is transmitted to the manufacturer for further processing of the Factory Approval Application.



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**Attachments:**

- Certificate ISO 9001 2015 LRQA, cert nr. **10413933**
- Expiry dates control table (Cuadro de control caducidad): **IT-06-06 Rev.1 (Annex A)**
- Inspection and Test Plan (ITP) / Control range checklist (Gama de control): **IT-06-04 Rev.9 (Annex F)**  
Document example: 97800005/05642364/12/03/2021
- Certificate type 3.1 acc. EN 10204 (including pressure test): **IT-06-04 Rev.9 (Annex C)**  
Document example: GCO 05743446 / 97800057
- Caliper calibration TÜV SÜD, certificate n° **E-21-09799**

***Inspected by:***

Name: **Sergio BORRÁS**

Signature:



Date of issue: **17<sup>th</sup> January 2022**

Inspection centre: **BVIT Alcobendas - Madrid (SPAIN)**

***Checked by:***

Name: **Javier IRIGOYEN**

Signature:



Distribution:  CLIENT

MANUFACTURER

