

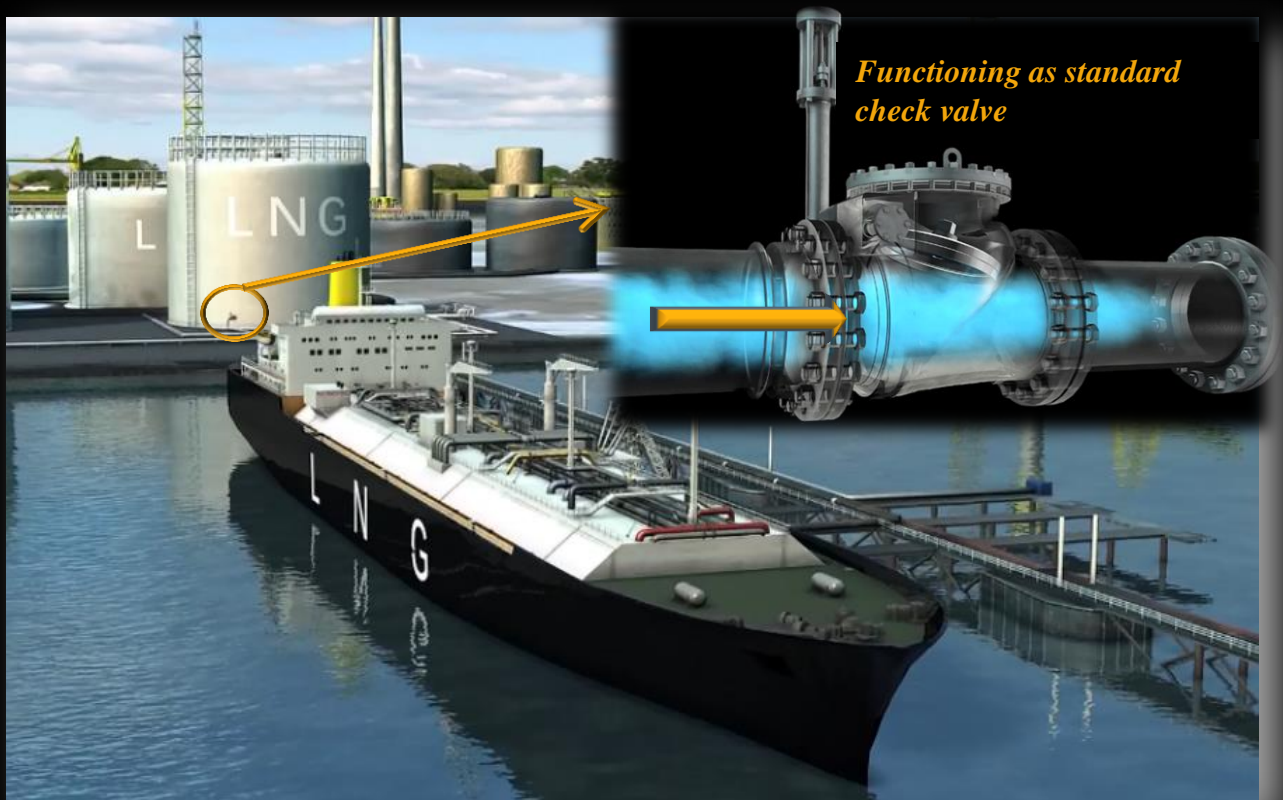


# ***CRYOGENIC MANOEUVRABLE SWING CHECK VALVE***



# ***YOUR SOLUTION FOR SHIP TO SHORE & SHORE/SHIP TO SHIP TRANSFERS:***

## ***1-SHIP UNLOADING TO LNG TERMINAL:***



SNRI



MALBRANQUE



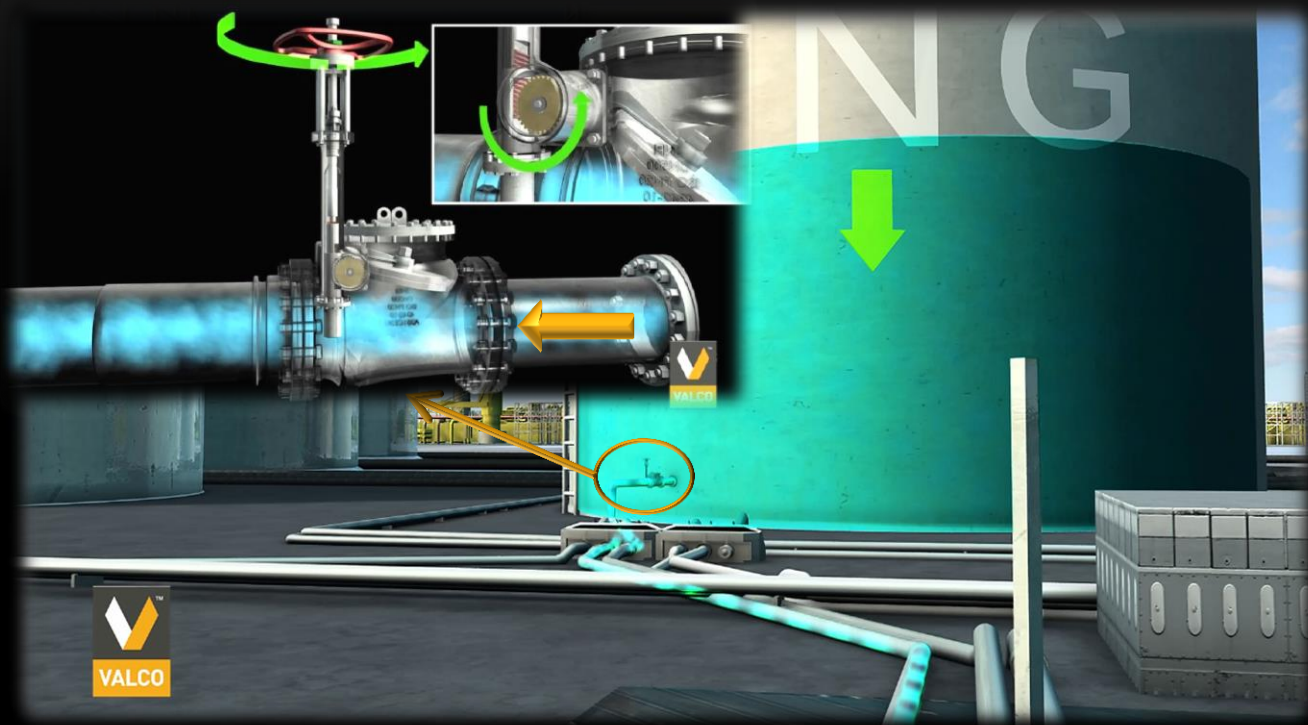
VVS

***Reliability***

Dedication to delivery

## 2- LNG TERMINAL/SHIP UNLOADING TO SHIP:

*-The Check valve must be locked open before the pump is put into service, with pressure and fluid free in the line.*



SNRI



MALBRANQUE



VVS

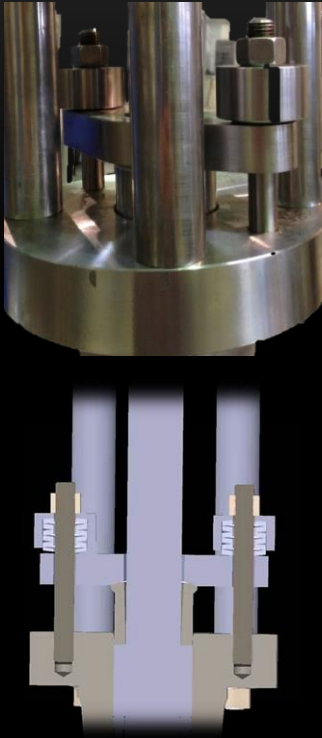
***Innovation***

Dedication to delivery

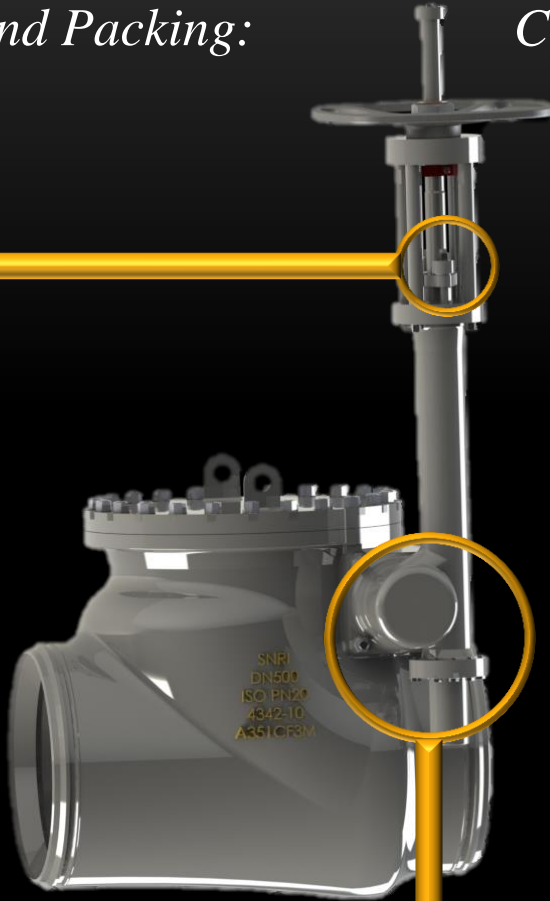


# ***DESIGN ANSWER:***

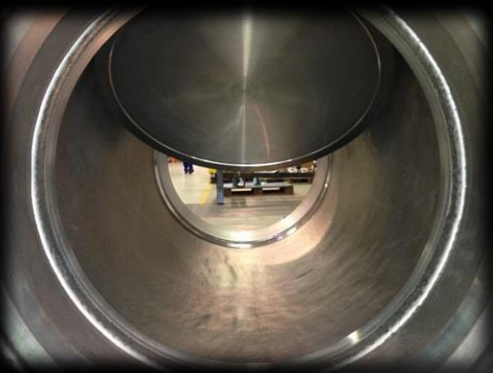
*Compensated Gland Packing:*



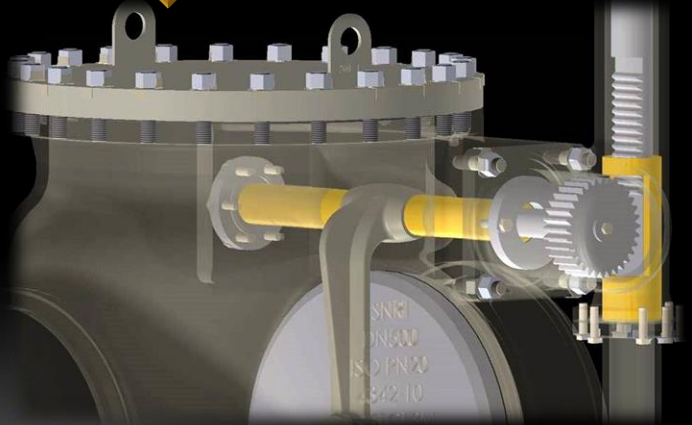
*Cryogenic Extension:*



*Sealing Face 316L  
Available in Stellite/Stellite*



*Declutching arm:*



SNRI



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VVS

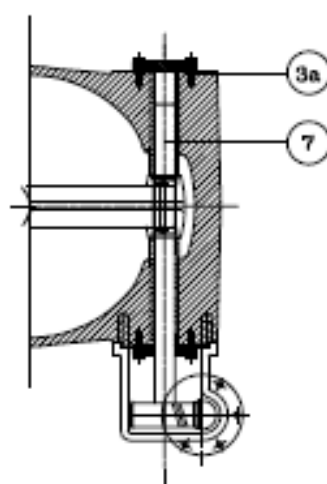
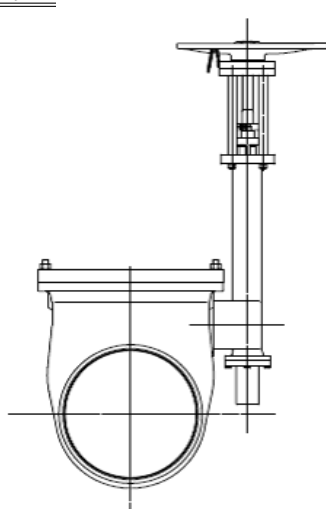
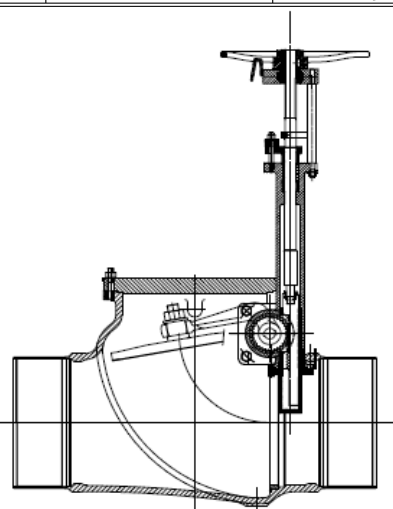
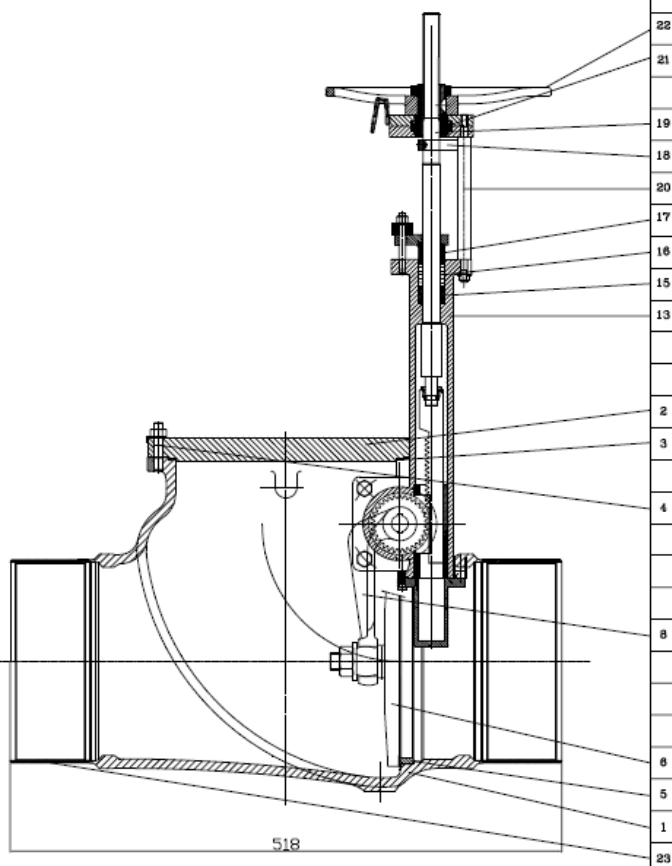
***Adaptability***

Dedication to delivery

# ALREADY AVAILABLE:

23	Manchette Pup pieces	Acier inox X5 CrNiMo 17 11 2 Stainless steel A312 Cr316/316L
22	Volant Hand wheel	Ponte FGS 400-15 Cast iron A 536 Cr 60-40-18
21	Ecrou de tige Stem nut	CuAl9Ni3Fe2 Aluminium bronze
20	Colonnnette Column	Acier inox X2 CrNiMo 17 11 2 Stainless steel A 182 F316L
19	Tige Stem	Acier inox X2 CrNiMo 17 11 2 Stainless steel A 182 F316L
18	Arrêt de tige Stem retainer	Acier inox X2 CrNiMo 17 11 2 Stainless steel A 182 F316L
17	Fouloir Cland	Acier inox X2 CrNiMo 17 11 2 Stainless steel A 182 F316L
16	Garnitures Packing	Graphite Graphite
15	Bague de fond Ring	CuAl9Ni3Fe2 Aluminium bronze
13	Extension cryo Extension	Acier inox Stainless steel A 351 Cr CF3M
8	Levier Hinge lever	Acier inox Stainless steel A 351 Cr CF3M
7	Axe d'articulation Hinge pin	Acier inox X6CrNi MoVB2515 Stainless steel A 638 Cr 680
6	Obturbateur / Portage Disc / Disc face	Acier inox X5 CrNiMo17.11.2/ Stellite Stainless steel A 182 F316 / Stellite
5	Siège / Portage Seat / Seating face	Acier inox X2 CrNiMo17.11.2/ Stellite Stainless steel A 182 F316L / Stellite
4	Boulonnerie Bolting	Acier inox Z 6 CND 17-11 Stainless steel A 194 Cr 8M / A 320 Cr 8M
3a	Joint de bouchon Plug gasket	Inox / Graphite Stainless steel / Graphite
3	Joint corps / couvercle Bonnet gasket	Spiralé Inox/Graphite Sp. Wound 316SS/Graphite
2	Couvercle Cover	Acier inox X2 CrNiMo 17 11 2 Stainless steel A 182 F316L
1	Corps Body	Acier inox Stainless steel A 351 Cr CF3M
REP MARK	DESIGNATION DESIGNATION	MATIERE (A.F.N.O.R) MATERIAL (A.S.T.M/A.I.S.I.)

CLOSED IN "AUTO" MODE



SNRI



MALBRANQUE



VVS

Anticipation

Dedication to delivery

# ***50 YEARS OF LNG TRACK RECORD***

***-1st LNG Carrier built at  
Le Havre- Jules Vernes***

**1964**

***-SNRI involved in French  
LNG Terminal Montoir &  
Tenaga Project of MISC***

**1970's**

**1980's**

***-SNRI provided Cryogenic  
valves to French LNG Terminal  
FOS & Le TELLIER LNGc built  
at La Ciotat***

**1990's**

***-Awarded of 14 LNGc project  
worldwide (including MISC &  
NGSCO vessels)***

***-12 LNGc contracts in 1 Year  
in South Korea & Japan***

**2004**

**2006**

***-Yemen & Nigeria LNG  
Terminal + 18 LNGc contracts***

***-SAKHALIN, FPSO PAZFLOR  
& 38 LNGc contracts***

**2008**

**2010**

***-21 LNGc contracts including  
Nakilat's Q-Max & Q-Flex***

***-Obtained 18 LNGc contracts,  
including all FSRUs & SHELL  
Prelude FLNG***

**2012**

**2014**



***Celebrating more than 300 LNGc contracts in 50 Years***



**SNRI**



**MALBRANQUE**



**VVS**

***Pioneer***

**Dedication to delivery**

## MAIN REFERENCES

SNRI IS PROUD TO HAVE SUPPLIED TO THE LINE OF:

Samsung Heavy Industries  
Hyundai Heavy Industries  
Daewoo Shipbuilding & Marine  
Engineering  
Hanjin Heavy Industries  
Air Liquide  
GDF Suez  
Tractebel  
Kawasaki Heavy Industries  
Mitsubishi Heavy Industries  
Imabari Shipbuilding  
Japan Marine United Corp.  
Mitsui Engineering & Shipbuilding  
Hudong Zhonghua  
...



## QUALITY CERTIFICATION

ISO 9001-2000

CE MARKING

API6A, 6D, API 600

FIRE SAFE DESIGN

GOST

DNV

CLASS NK

LLOYD'S REGISTER

BUREAU VERITAS

ABS



### Construction standards

API 6A, API 6D, API 600

ASME B31.1, B31.3, B16.5

B16.10, B16.25, B16.34

Section VIII, Section IX

ASTM as per client's request

MSS SP25, SP55, SP61, SP82



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MALBRANQUE



VVS

**Recognized**

Dedication to delivery





### SNRI SAS

Member of Valco group  
Chemin du Treuil  
CS40107  
16700 Ruffec, FRANCE

**Tel: +33 545 29 60 00**  
sales@snri.fr



### MALBRANQUE SAS

Member of Valco group  
Chemin du Treuil  
CS40107  
16700 Ruffec, FRANCE

**Tel: +33 545 29 60 00**  
sales@snri.fr



### VVS SAS

Member of Valco group  
Chemin du Treuil  
CS40107  
16700 Ruffec, FRANCE

**Tel: +33 545 29 60 21**  
executive@valco-valves-services.fr

The Group has three operational companies in France (SNRI SAS, Malbranque SAS and Valco Valves Services SAS). The Group revenue in 2013 was 45 M Euro for 240 employees.

Valco Group has valves and related products and services for applications worldwide within Marine sector, Oil & Gas, and Energy & Industry.

Valco Group's product portfolio contains strong and well established valve brands from in-house production, as well as provision of third party products.

Our experience has demonstrated our capability to handle the combination of high pressure and very low temperatures. We are also involved in providing products which covers sour services as well as any type of applications where product quality matters.



**VALCO**

**Worldwide**

Dedication to delivery