

**Operating, Maintenance and Repair Instructions
for
RMA-Ball Valve type “HKSF” DN25 till DN400**

Directory

- 1) **General Characteristics**
- 2) **Construction / Function**
- 3) **Storage**
- 4) **Installation**
- 5) **Maintenance**
- 6) **Exterior Coating Repair Work (Subsoil)**
- 7) **Operating Conditions**
- 8) **General Indication for Installation**
- 9) **Plan**

1) General Characteristics

The RMA ball valve type “HKSF 100” is an extremely sturdy, fully welded ball valve for use in gas pipe-lines (natural gas).

The ball valve is a shut-off device and should only be used in the FULLY-OPEN or FULLY-CLOSED positions. Flow reduction with a ball valve is **prohibited**.

2) Construction/Function

The body of the HKSF 100 ball valve is entirely weld-sealed.
The ball is supported by a journal at top and bottom.

The sealing-system is non-hardened system with a NBR sealing section, which are necessary to ensure the sealing between ball and cage.

The armature has got a full boring with plain and circular alleyway. The nominal widths DN 80,100, 150 in the ordinary versions have got an arched ball boring (by request also with plan boring.).

The ball valve is available with flanges, studs for welding or with other specified connections. In addition to that there should be used a gear unit from a ball valve size of DN150 PN25.

3) Storage

It is recommendable to store the ball valves fully open and indoors in order to avoid damage to ball and seating rings. The protection caps on weld-on ends should not be removed until installation.

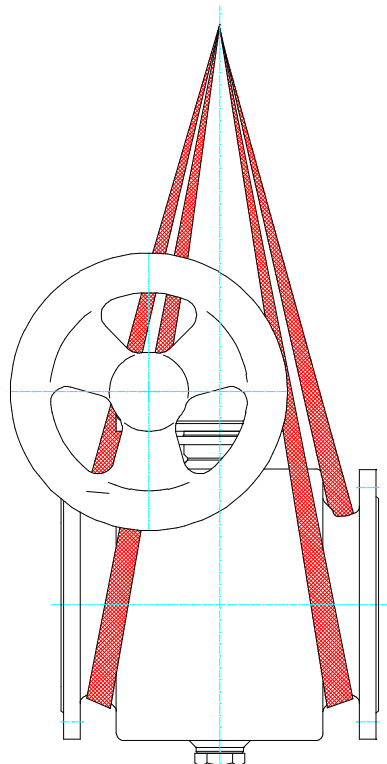
Long-term storage outdoors is to be avoided, in particular in direct sunlight.

4) Installation

In order to avoid damage to ball and seating rings, the ball valves should be installed in fully open position as supplied.

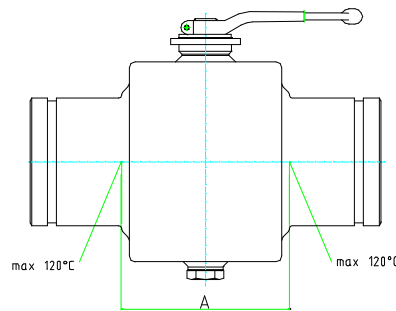
When lifting the ball valve, the slings must be wrapped around the body only and not around the spindle lever.

Sling point:



During welding operations, the temperature in zone A of body (see diagram) should not exceed 120°C. The fitting may only be welded in fully open position. Arc-welding is the only welding method allowed.

A=2.2 x rated bore



After welding and before operating the ball valve for the first time, the pipe-line must be thoroughly flushed, as impurities such as weld deposit (scale, cinders, rust, etc...) could damage the sealing elements.

Forces and stress caused by the external pipe-line must be avoided by ensuring the correct installation position and pipe-line construction.

5) Maintenance

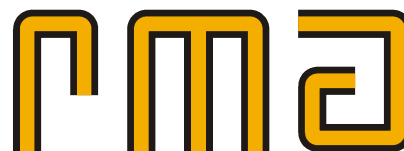
The HKSF 100 ball valve requires practically no maintenance. The bearing bushes are maintenance-free, self-lubricating and are subject to very little wear. The gears supplied are greased for life and therefore require no maintenance.

6) Exterior coating repair work

When the exterior coating PUR (Protegol 32-55) is damaged, it may be repaired using the repair kit "Protegol 32-55L" which is specially designed and supplied by the manufacturer for this purpose. The manufacturer's corresponding technical instructions are to be respected.

Due to the fast reaction time, the repair kit is supplied in small canisters of 0.5 kg (supplied by RMA).

Rev. Rheinau 1 March 2002
Technical modifications reserved



7) Operating Conditions

Maximum Temperature: -10° C - +70° C; ref. to data plate

Maximum Pressure: ref. to data plate

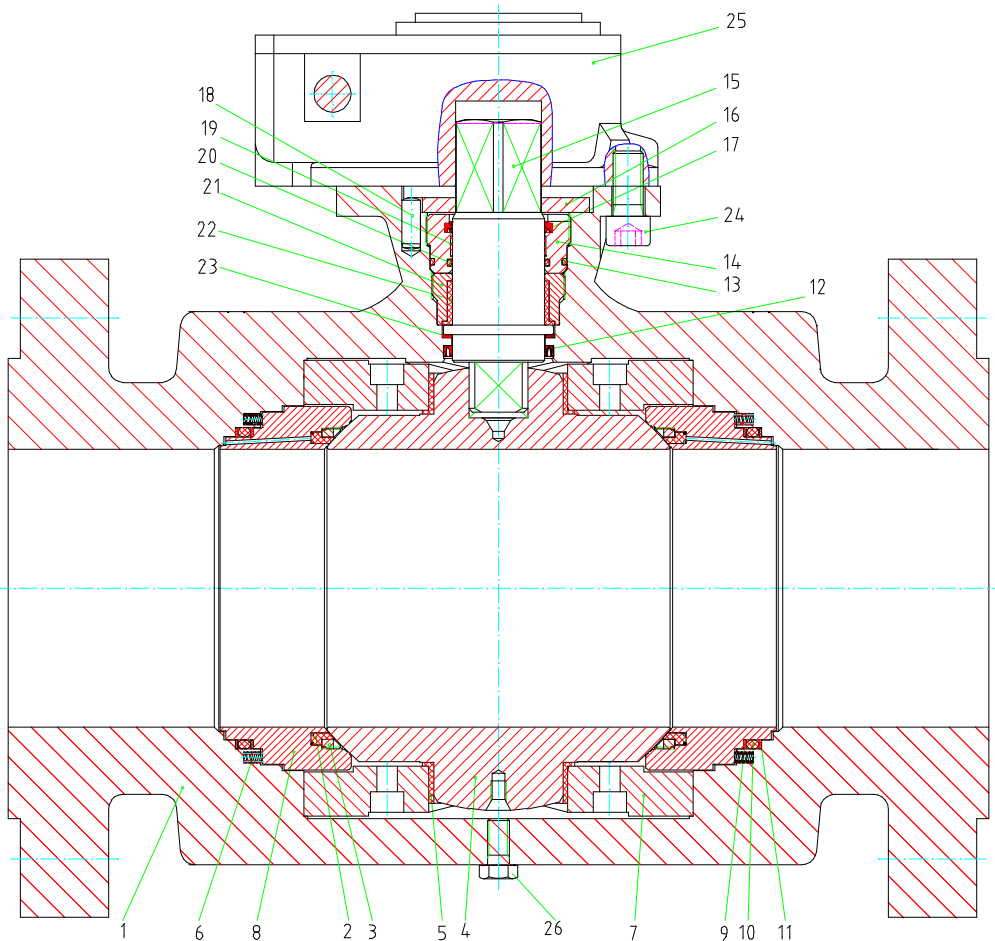
Allowed Mediums: ref. to time sheet G206/1 (DVGW)

Nominal Bore DN	Actuating Torque (without gear) [Nm]			
	PN			
	16	40	66,2	80
25	5	10	25	30
32	20	25	28	30
40	20	25	80	150
50	20	40	80	150
80	22	80	-	-
100	25	100	-	-
150	280	300	-	-
200	500	600	-	-
250	1000	1200	-	-
300	1800	2000	-	-
400	2900	3000	-	-

8.) General Indication for Installation

- **Work on the ball valve may only be performed by specialist staff.**
- **Protect flange surface.**
- **Tighten screws crosswise.**
- **Use suitable screws and heed maximum torque.**
- **When changing parts use new seals for the flanges.**
- **On completion of work on the ball valve perform a leakage and function test.**
- **Avoid open fire.**
- **Heed general rules.**
- **If these instructions are not heeded, the result may be personal injury or damage on property.**

9) Plan



Pos.	Benennung	description
1	Gehäuse	housing
2	Profildichtung	seal
3	Klemmring	clamping ring
4	Kugel	ball
5	Gleitlager	plain bearing
6	Druckfeder	compression spring
7	Führungsplatte	guide plate
8	Aufnahmering	pick-up ring
9	Stützring	back-up ring
10	O-Ring	o-seal
11	Stützring	back-up ring
12	Turcon-Variaseal	Turcon-Variaseal
13	O-Ring	o-seal

Pos.	Benennung	description
14	Druckstück - oben	thrust piece upper
15	Steuerwelle	switching spindle
16	Anschlagscheibe	stop disk
17	Abstreifer	wiper ring
18	Zylinderstift	straight pin
19	Gleitmaterial	antisize
20	O-Ring	o-seal
21	Druckstück - unten	thrust piece under
22	Gleitlager	plain bearing
23	Anlaufscheibe	slide ring
24	Zylinderschraube	hex. socket head cap screw
25	Getriebe	gear
26	Entlüftungsstopfen	vent plug