



## MARINE LEVEL GAUGES

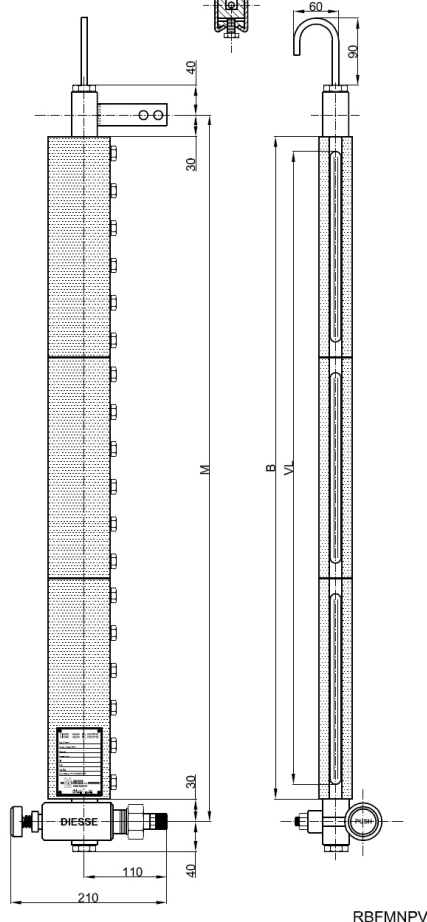
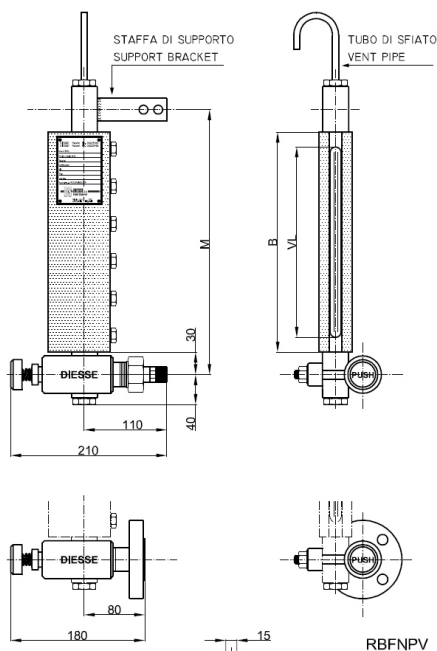
On request the product is available also with  
**the approval certificate of Lloyd's Register**



## GLASS LEVEL GAUGE REFLEX TYPE PN16

### DS LG - RBF NPV

Code: DS LG-RBF...-... /40/RF-NPV/...-...-M...-CS/CS



#### Technical data

##### Service conditions

Pressione max: PN16  
Temperatura max: 150°C

##### Application

Fluid storage tanks also aboard of ships

##### View

Standard: front, on request lateral (right or left) adjustable in the production phase

##### Distance (Centre-to-centre)

Standard: see below table for minimum distance (Fixed distance, not adjustable)  
Option: On request intermediate distances and over 3.000 mm

##### Materials (Standard)

Execution: CS/CS  
Gauge body & valve body: ASTM A105  
Stem and disc: AISI 410  
Non-wetted parts: Carbon steel galvanized

SS/CS  
AISI 316L  
AISI 316  
Carbon steel galvanized

##### Gaskets

Standard: graphite/copper  
Option: graphite/AISI 316 or PTFE/AISI316

##### Self-closing Valve

DS NPV: self-closing, push button type  
Handling: opening by push button (Standard: valve on the right side; On request on the left side)

##### Process connections:

Standard flange: UNI PN16 DN15-20-25  
Standard threaded unions: BSP-M 1/2" - 3/4"  
Option: further connections types

ANSI #150/RF DN 1/2" - 3/4" - 1"  
NPT-M 1/2" - 3/4"

Vent: Standard: threaded 1/2" with vent pipe

Option: on request (See details at page 1.52)

Drain: Standard: threaded 1/2" with plug

Option: on request (See details at page 1.52)

##### Glasses

Reflex - Borosilicate glass, "extra hard" and thermally pre-stressed - According to DIN 7081  
Standard: fitted with type A (See page 1.69)  
Option: type B (See page 1.69)

##### Accessories

See from page 1.55

##### Weights

Housing DS RBF: see below table  
Valve DS NPV: Kg. 2,6 approx. (With flanges UNI DN20 PN16)

##### Tightening torque of housing screws

Standard: 40 Nm

##### Spare parts

Housing DS RBF: see from page 1.69 (Drawing with components and parts list see page 1.61)  
Valve DS NPV: see from page 1.74 (Drawing with components and parts list see page 1.67)

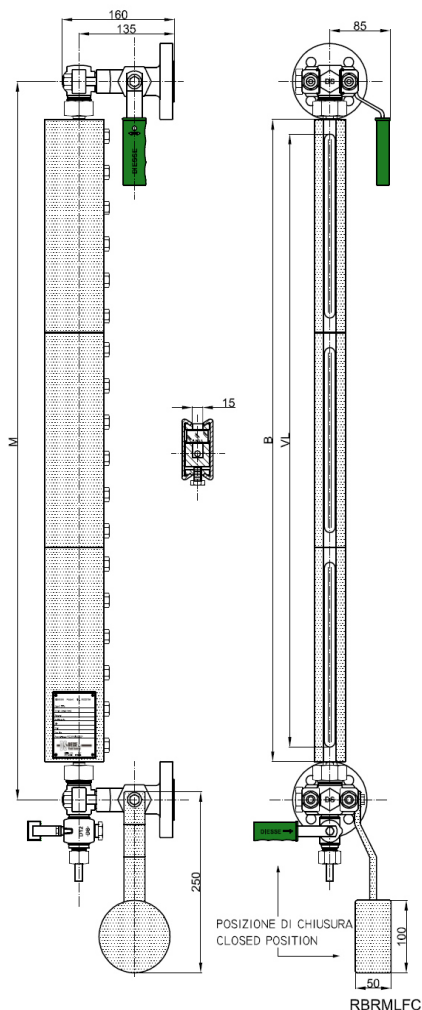
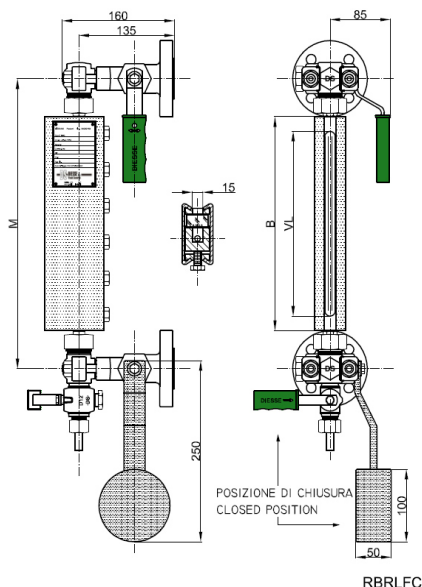
| CODE | TYPE      | BODY<br>Length<br>[mm] | DISTANCE<br>MINIMUM SL<br>[mm] | VISIBLE<br>Length<br>[mm] | GLASS<br>Length<br>[mm] | WEIGHT<br>Housing<br>[Kg] |
|------|-----------|------------------------|--------------------------------|---------------------------|-------------------------|---------------------------|
|      | x No. el. | B                      | M = B+60                       | VL                        | x No. elements          |                           |
| 11   | 1x1       | 130                    | 190                            | 95                        | 115x1                   | 3,7                       |
| 12   | 2x1       | 155                    | 215                            | 120                       | 140x1                   | 4,1                       |
| 13   | 3x1       | 180                    | 240                            | 145                       | 165x1                   | 4,6                       |
| 14   | 4x1       | 205                    | 265                            | 170                       | 190x1                   | 5,1                       |
| 15   | 5x1       | 235                    | 295                            | 200                       | 220x1                   | 5,6                       |
| 16   | 6x1       | 265                    | 325                            | 230                       | 250x1                   | 6,2                       |
| 17   | 7x1       | 295                    | 355                            | 260                       | 280x1                   | 6,7                       |
| 18   | 8x1       | 335                    | 395                            | 300                       | 320x1                   | 7,4                       |
| 19   | 9x1       | 360                    | 420                            | 320                       | 340x1                   | 7,9                       |
| 24   | 4x2       | 410                    | 470                            | 375                       | 190x2                   | 8,8                       |
| 25   | 5x2       | 470                    | 530                            | 435                       | 220x2                   | 9,8                       |
| 26   | 6x2       | 530                    | 590                            | 495                       | 250x2                   | 11,0                      |
| 27   | 7x2       | 590                    | 650                            | 555                       | 280x2                   | 12,0                      |
| 28   | 8x2       | 670                    | 730                            | 635                       | 320x2                   | 13,4                      |
| 29   | 9x2       | 720                    | 780                            | 680                       | 340x2                   | 14,4                      |
| 36   | 6x3       | 795                    | 855                            | 760                       | 250x3                   | 15,7                      |
| 37   | 7x3       | 885                    | 945                            | 850                       | 280x3                   | 17,2                      |
| 38   | 8x3       | 1005                   | 1065                           | 970                       | 320x3                   | 19,3                      |
| 39   | 9x3       | 1080                   | 1140                           | 1040                      | 340x3                   | 20,8                      |
| 47   | 7x4       | 1180                   | 1240                           | 1145                      | 280x4                   | 22,5                      |
| 48   | 8x4       | 1340                   | 1400                           | 1305                      | 320x4                   | 25,3                      |
| 49   | 9x4       | 1440                   | 1500                           | 1400                      | 340x4                   | 27,3                      |
| 57   | 7x5       | 1475                   | 1535                           | 1440                      | 280x5                   | 27,8                      |
| 58   | 8x5       | 1675                   | 1735                           | 1640                      | 320x5                   | 31,3                      |
| 59   | 9x5       | 1800                   | 1860                           | 1760                      | 340x5                   | 33,8                      |
| 68   | 8x6       | 2010                   | 2070                           | 1975                      | 320x6                   | 37,2                      |
| 69   | 9x6       | 2160                   | 2220                           | 2120                      | 340x6                   | 40,2                      |
| 78   | 8x7       | 2345                   | 2405                           | 2310                      | 320x7                   | 43,2                      |
| 79   | 9x7       | 2520                   | 2580                           | 2480                      | 340x7                   | 46,7                      |
| 88   | 8x8       | 2680                   | 2740                           | 2645                      | 320x8                   | 49,3                      |
| 89   | 9x8       | 2880                   | 2940                           | 2840                      | 340x8                   | 53,2                      |

Tab. RBF

## GLASS LEVEL GAUGE REFLEX TYPE PN25 and PN40 / Class 150

### DS LG - RBR GR18 - LFC

Code: DS LG-RBR...../40/RF-GR18/.../...-M...-CS/CS-LFC



#### Technical data

##### Service conditions

Max Pressure: PN25 and PN40

Max Temperature: 300°C (According to DIN 7081 for glasses, see page 1.69)

##### Application

Fluid storage tanks also aboard of ships

##### View

Standard: adjustable on 360° in the installation phase

##### Distance (Centre-to-centre)

Standard: see below table (Distance adjustable - 0 mm / + 10 mm)

Option: On request intermediate distances and over 3.000 mm

##### Materials (Standard)

Execution:

Gauge body & cocks body:

Cocks trim:

Non-wetted parts:

CS/CS

ASTM A105

AISI 303

Carbon steel galvanized

SS/CS

AISI 316L

AISI 316

Carbon steel galvanized

##### Gaskets

Standard: graphite/copper

Option: graphite/AISI 316 or PTFE/AISI316

##### Shut-off cocks

DS GR18: cylindrical plug type - Straight type - Quick 90° closing

Lower cock with weight closing accessory for self closing

##### Process connections:

Standard flanges: UNI PN40 DN15-20-25

Standard threaded unions: BSP-M ½" - ¾"

Options: further connections types to the process (See page 1.49)

Vent: Standard: blind

Drain: Standard: cock DS D12 threaded ½"

ANSI #150-300/RF DN ½" - ¾" - 1"

NPT-M ½" - ¾"

Option: see page 1.50

Option: see page 1.50

##### Glasses

Reflex - Borosilicate glass, "extra hard" and thermally pre-stressed - According to DIN 7081

Standard: fitted with type A (See page 1.69)

Option: type B (See page 1.69)

##### Accessories

See from page 1.55

##### Weights

Housing DS RBR: see below table

Cocks DS GR18 with weight closing for lower handle: Kg. 10,8 approx. (With flanges UNI DN20 PN40)

##### Tightening torque of housing screws

Standard: 40 Nm

##### Spare parts

Housing DS RBR: see from page 1.69 (Drawing with components and parts list see page 1.61)

Cocks DS GR18: see from page 1.72 (Drawing with components and parts list see page 1.66)

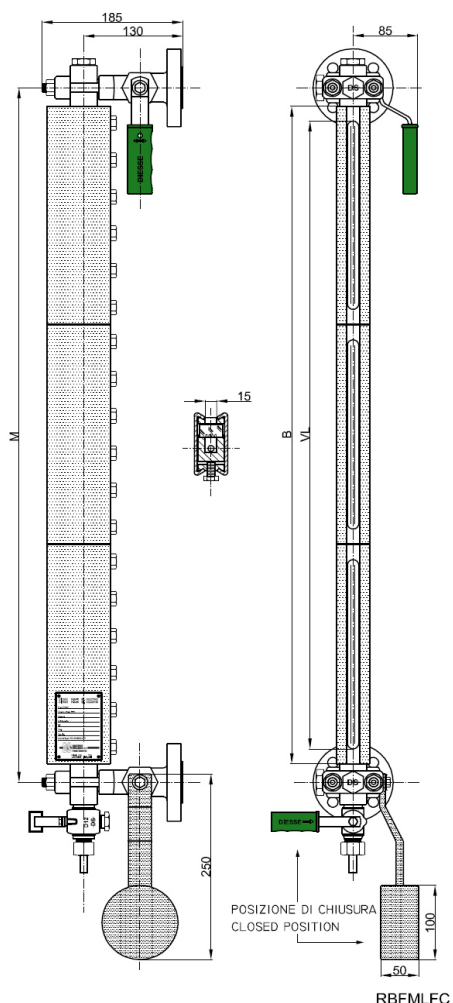
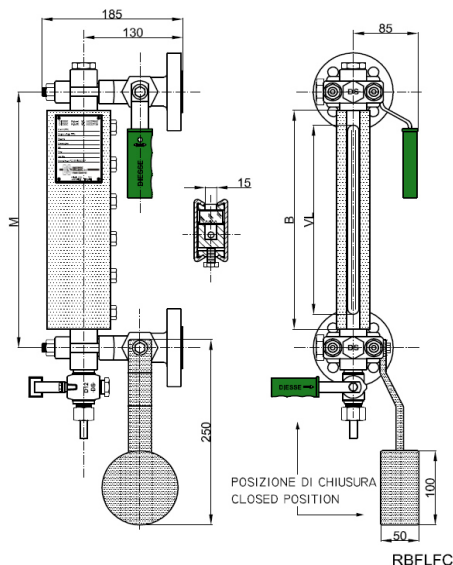
| CODE | TYPE      | BODY Length [mm] | DISTANCE SL Pipes L = 57 M [-0/+10 mm] | DISTANCE HL Pipes L = 70 M [-0/+10 mm] | VISIBLE Length [mm] | GLASS Length [mm] | WEIGHT Housing [Kg] |
|------|-----------|------------------|----------------------------------------|----------------------------------------|---------------------|-------------------|---------------------|
|      | x No. el. | B                | M = B+105                              | M = B+130                              | VL                  | x No. elements    |                     |
| 11   | 1x1       | 130              | 235                                    | 260                                    | 95                  | 115x1             | 2,4                 |
| 12   | 2x1       | 155              | 260                                    | 285                                    | 120                 | 140x1             | 2,8                 |
| 13   | 3x1       | 180              | 285                                    | 310                                    | 145                 | 165x1             | 3,3                 |
| 14   | 4x1       | 205              | 310                                    | 335                                    | 170                 | 190x1             | 3,8                 |
| 15   | 5x1       | 235              | 340                                    | 365                                    | 200                 | 220x1             | 4,3                 |
| 16   | 6x1       | 265              | 370                                    | 395                                    | 230                 | 250x1             | 4,9                 |
| 17   | 7x1       | 295              | 400                                    | 425                                    | 260                 | 280x1             | 5,4                 |
| 18   | 8x1       | 335              | 440                                    | 465                                    | 300                 | 320x1             | 6,1                 |
| 19   | 9x1       | 360              | 465                                    | 490                                    | 320                 | 340x1             | 6,6                 |
| 24   | 4x2       | 410              | 515                                    | 540                                    | 375                 | 190x2             | 7,5                 |
| 25   | 5x2       | 470              | 575                                    | 600                                    | 435                 | 220x2             | 8,5                 |
| 26   | 6x2       | 530              | 635                                    | 660                                    | 495                 | 250x2             | 9,7                 |
| 27   | 7x2       | 590              | 695                                    | 720                                    | 555                 | 280x2             | 10,7                |
| 28   | 8x2       | 670              | 775                                    | 800                                    | 635                 | 320x2             | 12,1                |
| 29   | 9x2       | 720              | 825                                    | 850                                    | 680                 | 340x2             | 13,1                |
| 36   | 6x3       | 795              | 900                                    | 925                                    | 760                 | 250x3             | 14,4                |
| 37   | 7x3       | 885              | 990                                    | 1015                                   | 850                 | 280x3             | 15,9                |
| 38   | 8x3       | 1005             | 1110                                   | 1145                                   | 970                 | 320x3             | 18,0                |
| 39   | 9x3       | 1080             | 1185                                   | 1210                                   | 1040                | 340x3             | 19,5                |
| 47   | 7x4       | 1180             | 1285                                   | 1310                                   | 1145                | 280x4             | 21,2                |
| 48   | 8x4       | 1340             | 1445                                   | 1470                                   | 1305                | 320x4             | 24,0                |
| 49   | 9x4       | 1440             | 1545                                   | 1570                                   | 1400                | 340x4             | 26,0                |
| 57   | 7x5       | 1475             | 1580                                   | 1605                                   | 1440                | 280x5             | 26,5                |
| 58   | 8x5       | 1675             | 1780                                   | 1805                                   | 1640                | 320x5             | 30,0                |
| 59   | 9x5       | 1800             | 1905                                   | 1930                                   | 1760                | 340x5             | 32,5                |
| 68   | 8x6       | 2010             | 2115                                   | 2140                                   | 1975                | 320x6             | 35,9                |
| 69   | 9x6       | 2160             | 2265                                   | 2290                                   | 2120                | 340x6             | 38,9                |
| 78   | 8x7       | 2345             | 2450                                   | 2475                                   | 2310                | 320x7             | 41,9                |
| 79   | 9x7       | 2520             | 2625                                   | 2650                                   | 2480                | 340x7             | 45,4                |
| 88   | 8x8       | 2680             | 2785                                   | 2810                                   | 2645                | 320x8             | 47,9                |
| 89   | 9x8       | 2880             | 2985                                   | 3010                                   | 2840                | 340x8             | 51,9                |

Tab. RBR

## GLASS LEVEL GAUGE REFLEX TYPE PN25 and PN40 / Class 150

### DS LG - RBF GR18 - LFC

Code: DS LG-RBF.../40/RF-GR18/...-M...-CS/CS - LFC



#### Technical data

##### Service conditions

Max Pressure: PN25 and PN40

Max Temperature: 300°C (According to DIN 7081 for glasses, see page 1.69)

##### Application

Fluid storage tanks also aboard of ships

##### View

Standard: front, on request lateral (right or left) adjustable in the production phase

##### Distance (Centre-to-centre)

Standard: see below table for minimum distance (Fixed distance, not adjustable)

Option: On request intermediate distances and over 3.000 mm

##### Materials (Standard)

|                          |                         |                         |
|--------------------------|-------------------------|-------------------------|
| Execution:               | CS/CS                   | SS/CS                   |
| Gauge body & cocks body: | ASTM A105               | AISI 316L               |
| Cocks trim:              | AISI 303                | AISI 316                |
| Non-wetted parts:        | Carbon steel galvanized | Carbon steel galvanized |

##### Gaskets

Standard: graphite/copper

Option: graphite/AISI 316 or PTFE/AISI316

##### Shut-off cocks

DS GR18: cylindrical plug type - Straight type - Quick 90° closing

Lower cock with weight closing accessory for self closing

##### Process connections:

Standard flanges: UNI PN40 DN15-20-25 ANSI #150-300-600/RF DN ½" - ¾" - 1"

Standard threaded unions: BSP-M ½" - ¾" NPT-M ½" - ¾"

Options: further connections types to the process (see page 1.51)

Vent: Standard: threaded ½" with plug

Option: see page 1.52

Drain: Standard: cock DS D12 threaded ½"

Option: see page 1.52

##### Glasses

Reflex - Borosilicate glass, "extra hard" and thermally pre-stressed - According to DIN 7081

Standard: fitted with type A (See page 1.69)

Option: type B (See page 1.69)

##### Accessories

See from page 1.55

##### Weights

Housing DS RBF: see below table

Cocks DS GR18 with weight closing for lower handle: Kg. 10,8 approx. (With flanges UNI DN20 PN40)

##### Tightening torque of housing screws

Standard: 40 Nm

##### Spare parts

Housing DS RBF: see from page 1.69 (Drawing with components and parts list see page 1.61)

Cocks DS GR18: see from page 1.72 (Drawing with components and parts list see page 1.66)

| CODE | TYPE      | BODY<br>Length<br>[mm] | DISTANCE<br>MINIMUM SL<br>[mm] | VISIBLE<br>Length<br>[mm] | GLASS<br>Length<br>[mm] | WEIGHT<br>Housing<br>[Kg] |
|------|-----------|------------------------|--------------------------------|---------------------------|-------------------------|---------------------------|
|      | x No. el. | B                      | M = B+40                       | VL                        | x No. elements          |                           |
| 11   | 1x1       | 130                    | 170                            | 95                        | 115x1                   | 3,7                       |
| 12   | 2x1       | 155                    | 195                            | 120                       | 140x1                   | 4,1                       |
| 13   | 3x1       | 180                    | 220                            | 145                       | 165x1                   | 4,6                       |
| 14   | 4x1       | 205                    | 245                            | 170                       | 190x1                   | 5,1                       |
| 15   | 5x1       | 235                    | 275                            | 200                       | 220x1                   | 5,6                       |
| 16   | 6x1       | 265                    | 305                            | 230                       | 250x1                   | 6,2                       |
| 17   | 7x1       | 295                    | 335                            | 260                       | 280x1                   | 6,7                       |
| 18   | 8x1       | 335                    | 375                            | 300                       | 320x1                   | 7,4                       |
| 19   | 9x1       | 360                    | 400                            | 320                       | 340x1                   | 7,9                       |
| 24   | 4x2       | 410                    | 450                            | 375                       | 190x2                   | 8,8                       |
| 25   | 5x2       | 470                    | 510                            | 435                       | 220x2                   | 9,8                       |
| 26   | 6x2       | 530                    | 570                            | 495                       | 250x2                   | 11,0                      |
| 27   | 7x2       | 590                    | 630                            | 555                       | 280x2                   | 12,0                      |
| 28   | 8x2       | 670                    | 710                            | 635                       | 320x2                   | 13,4                      |
| 29   | 9x2       | 720                    | 760                            | 680                       | 340x2                   | 14,4                      |
| 36   | 6x3       | 795                    | 835                            | 760                       | 250x3                   | 15,7                      |
| 37   | 7x3       | 885                    | 925                            | 850                       | 280x3                   | 17,2                      |
| 38   | 8x3       | 1005                   | 1045                           | 970                       | 320x3                   | 19,3                      |
| 39   | 9x3       | 1080                   | 1120                           | 1040                      | 340x3                   | 20,8                      |
| 47   | 7x4       | 1180                   | 1220                           | 1145                      | 280x4                   | 22,5                      |
| 48   | 8x4       | 1340                   | 1380                           | 1305                      | 320x4                   | 25,3                      |
| 49   | 9x4       | 1440                   | 1480                           | 1400                      | 340x4                   | 27,3                      |
| 57   | 7x5       | 1475                   | 1515                           | 1440                      | 280x5                   | 27,8                      |
| 58   | 8x5       | 1675                   | 1715                           | 1640                      | 320x5                   | 31,3                      |
| 59   | 9x5       | 1800                   | 1840                           | 1760                      | 340x5                   | 33,8                      |
| 68   | 8x6       | 2010                   | 2050                           | 1975                      | 320x6                   | 37,2                      |
| 69   | 9x6       | 2160                   | 2200                           | 2120                      | 340x6                   | 40,2                      |
| 78   | 8x7       | 2345                   | 2385                           | 2310                      | 320x7                   | 43,2                      |
| 79   | 9x7       | 2520                   | 2560                           | 2480                      | 340x7                   | 46,7                      |
| 88   | 8x8       | 2680                   | 2720                           | 2645                      | 320x8                   | 49,3                      |
| 89   | 9x8       | 2880                   | 2920                           | 2840                      | 340x8                   | 53,2                      |

Tab. RBF