Rubber Design

vibration and noise control

Photography: Roger van der Kraan

Conical Mountings





Rubber Design
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DOCUMENTATION SHEET

Conical Mountings

CONICAL MOUNTINGS

General

The range of conical marine mountings were designed specially with medium speed engines in mind. The conical design provides high deflection and load capacity combined with long service life. Although originally designed for main engine, auxiliary engine and generator installations, the mountings are particularly versatile and can be equally used for exhaust gas boilers and silencers. For applications like the suspension of deckhouses, accommodation rooms and control cabins, this mounting is an excellent isolator against structure borne vibration and noise, passive isolation. The acoustic properties of this type of mounting are excellent. The result of the measured structure borne vibration and noise transmission are available. In both vertical and horizontal directions the transfer functions show in the low frequency range a decrease of 12 dB/octave, an 'ideal mass-less spring characteristic'.`

Specification

The characteristics of the mounting are provided by a conical rubber element designed to carry the vertical load in a combination of compression and shear. The rubber elements for the mountings are produced in several types. Type RD 113, 114, 214, 314 and 414 are produced with extra interleaf rings and type RD 115, 215, 315 and 415 without extra interleaf ring. The rubber elements are manufactured in six 'standard' rubber mixes: 45NR, 50NR, 55NR, 60NR, 65NR, 70NR and consequently cover a wide range of load / deflection requirements. Applicable up to 70°C continuous and 90°C peak temperatures. Next to that, for the high temperatures applications, there are special developed compounds for 90°C continuous and 110° C peak temperature - and 110°C continuous and 130°C peak temperature available in the above mentioned Shore hardness.

Mounting selection

It is advisable to seek expert advice before finalising an installation design. In practice most installations will be subjected to both translational and rotational excitations and in consequence an analysis of all six degrees of freedom will be necessary. We will be pleased to advise on mountings numbers, rubber mix and mounting positions to ensure a 'faultless' flexible mounted installation. Before we can commence the design of a mounting system detailed information is required. Vibration calculations are carried out using our specially developed computer programs to meet new standards for both crews and passengers.

Remark

It is our intention to maintain the excellent standard of our products. Modifications and improvements may be made from time to time, therefore we advise to contact us before ordering.

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CONICAL MOUNTINGS

Types

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DOCUMENTATION SHEET

Conical Mountings
Type RD 112

RD 112

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

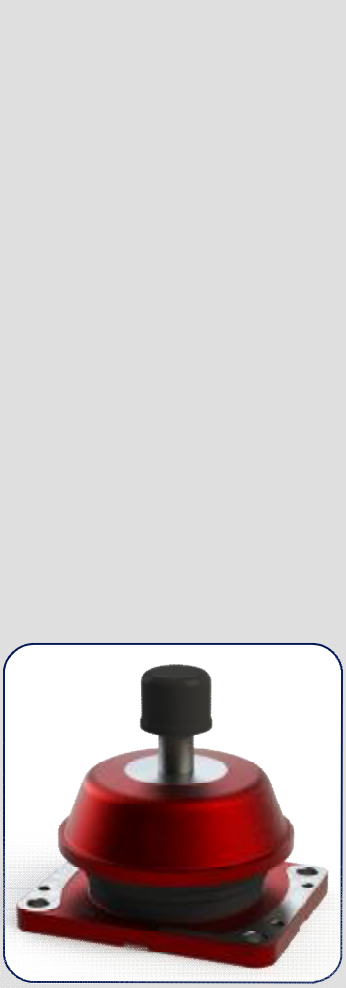
Rubber Hardness [°Sh. A]	45	50	55
Max Marine load [kN]	75	83	92
Max Static load [kN]	92	103	112
Max Static vert. defl. [mm]	20	19	18

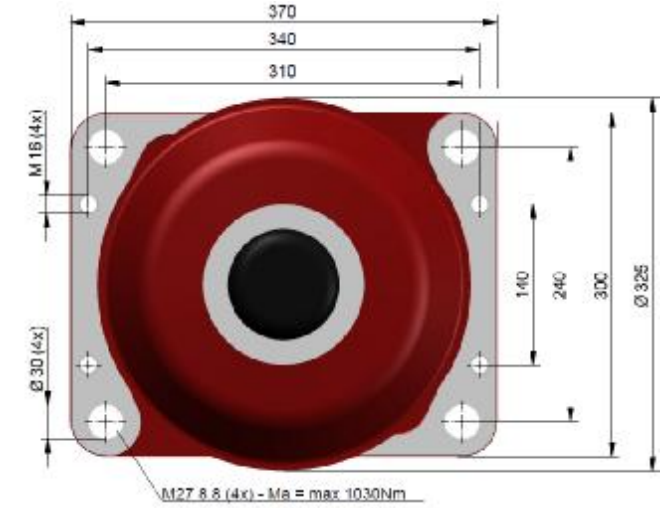
CHARACTERISTICS

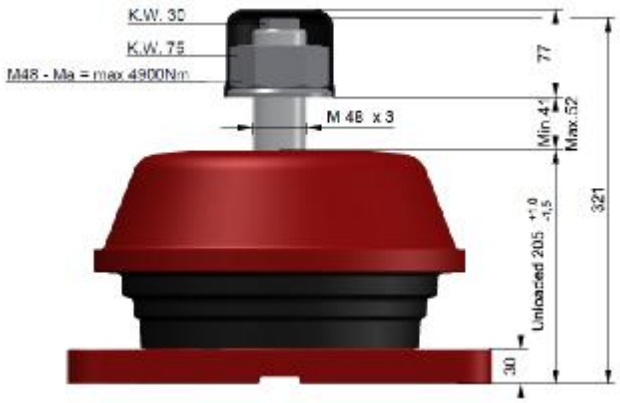
Shockload	300 kN (all directions)

SHOCKLOAD

TYPE APPROVALS







DIMENSIONS

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DOCUMENTATION SHEET

Conical Mountings
Type RD 113

RD 113

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

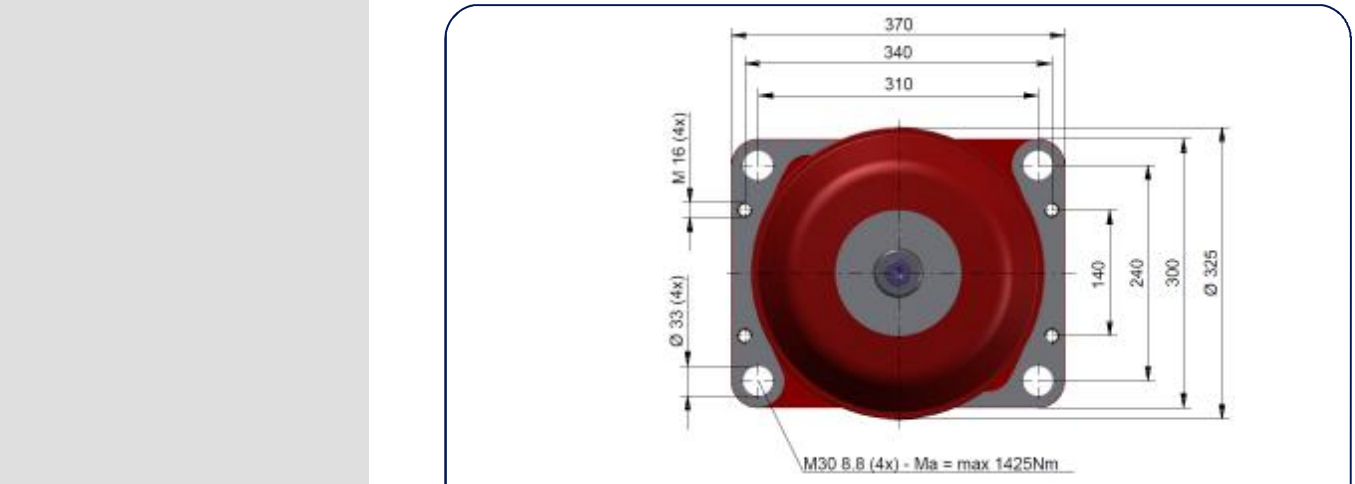
Rubber Hardness [°Sh. A]	55	60	65
Max Marine load [kN]	120	152	175
Max Static load [kN]	142	185	215
Max Static vert. defl. [mm]	15	14	13

CHARACTERISTICS

Shockload	360 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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DOCUMENTATION SHEET

Conical Mountings
Type RD 114

RD 114

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

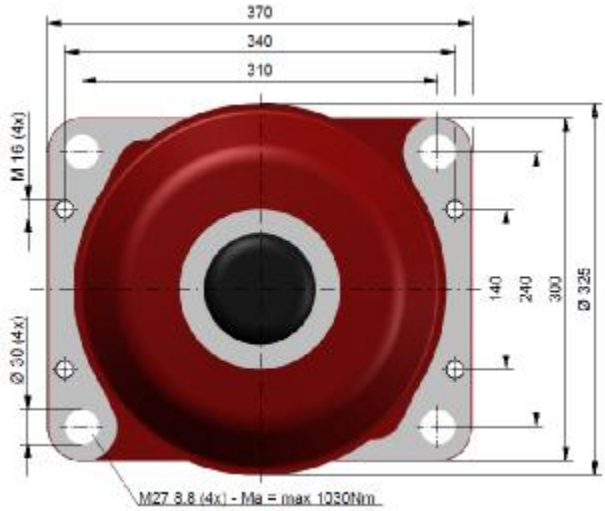
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	83	93	106	117	135
Max Static load [kN]	97	112	126	140	163
Max Static vert. defl. [mm]	14	13	12,5	11,5	10

CHARACTERISTICS

Shockload	300 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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DOCUMENTATION SHEET

Conical Mountings
Type RD 114 height re-adjustable

RD 114
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

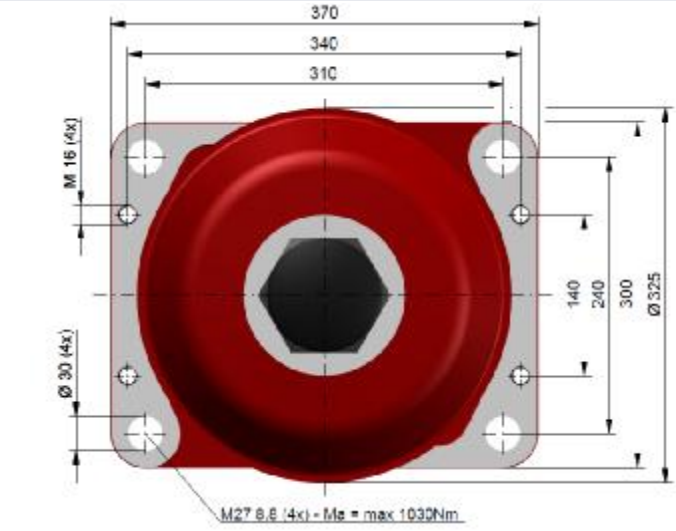
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	83	93	106	117	135
Max Static load [kN]	97	112	126	140	163
Max Static vert. defl. [mm]	14	13	12,5	11,5	10

CHARACTERISTICS

Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
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DOCUMENTATION SHEET

Conical Mountings
Type RD 114X

RD 114X

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

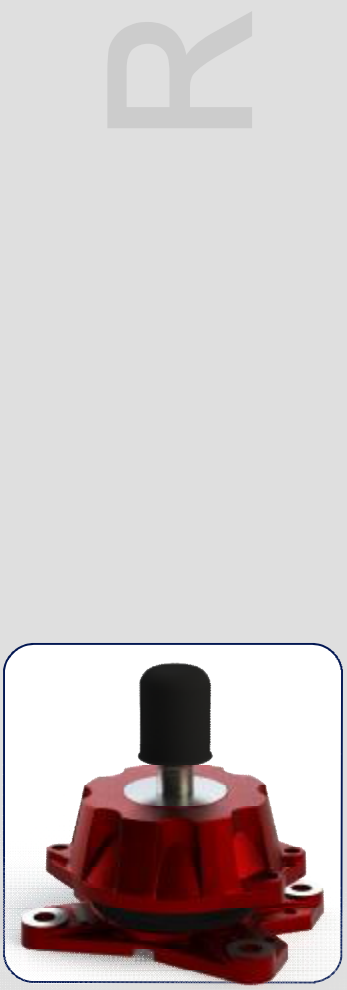
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	186	220	254	290	322
Max Static load [kN]	218	258	310	355	410
Max Static vert. defl. [mm]	15,5	15	14	13,5	12,5

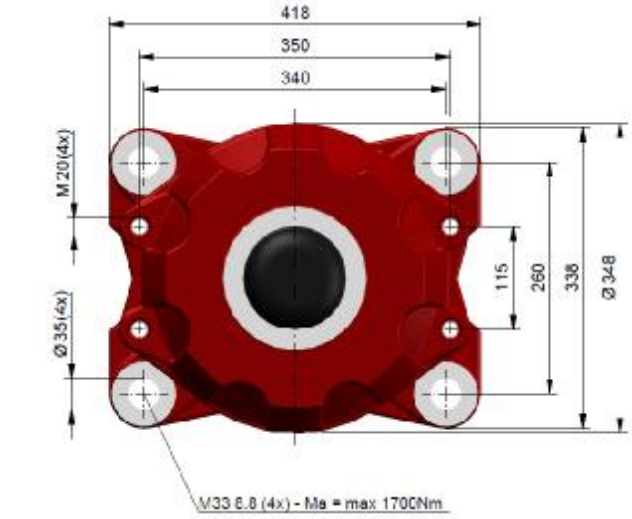
CHARACTERISTICS

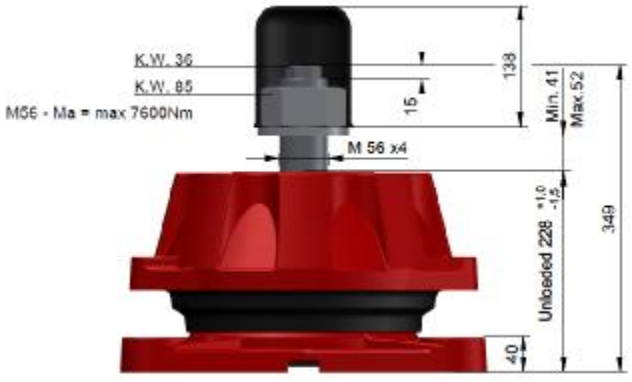
Shockload	450 kN (all directions)

SHOCKLOAD

TYPE APPROVALS







DIMENSIONS

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DOCUMENTATION SHEET

Conical Mountings
Type RD 114X

RD 114X
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

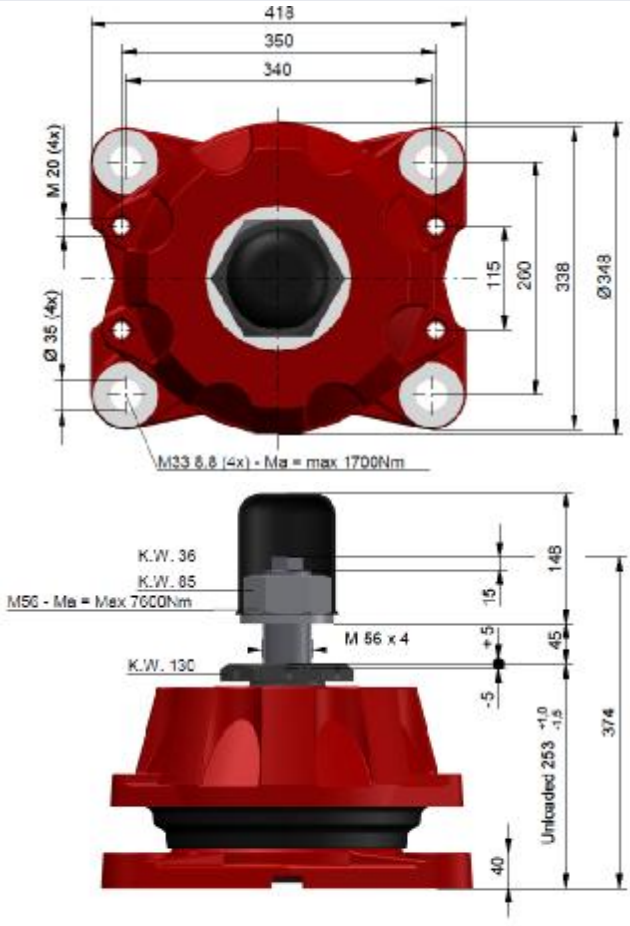
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	186	220	254	290	322
Max Static load [kN]	218	258	310	355	410
Max Static vert. defl. [mm]	15,5	15	14	13,5	12,5

CHARACTERISTICS

Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 115

RD 115

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

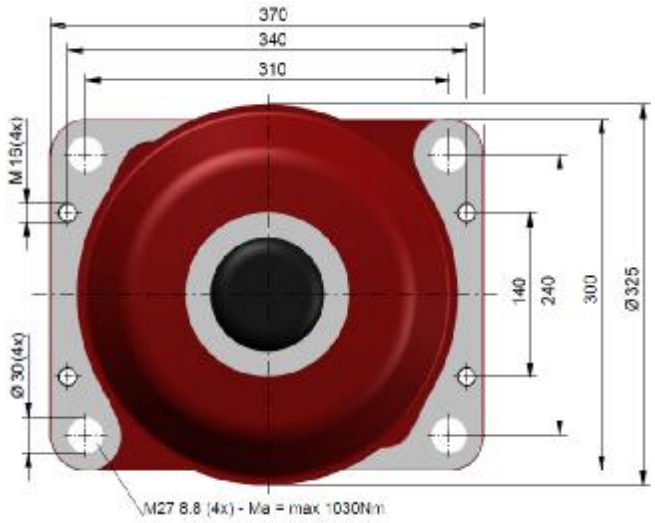
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	46	55	67	79	92
Max Static load [kN]	55	63	76	90	102
Max Static vert. defl. [mm]	18	17,5	16,5	16	15

CHARACTERISTICS

Shockload	300 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 115

RD 115
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		6	6	4

CLEARANCE

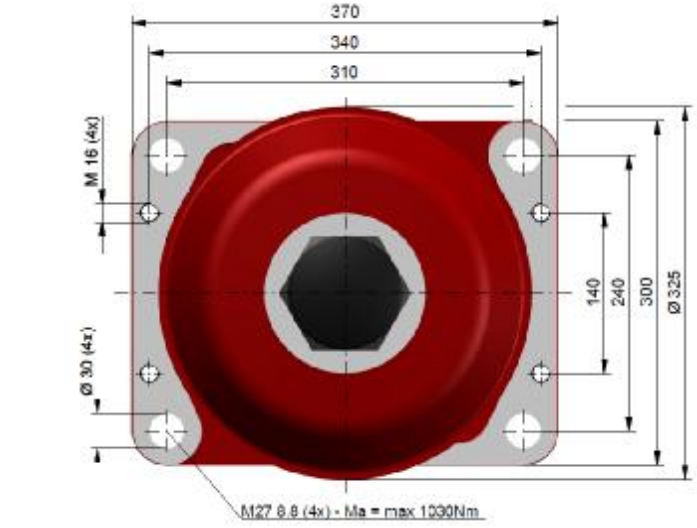
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	46	55	67	79	92
Max Static load [kN]	55	63	76	90	102
Max Static vert. defl. [mm]	18	17,5	16,5	16	15

CHARACTERISTICS

Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 214

RD 214

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

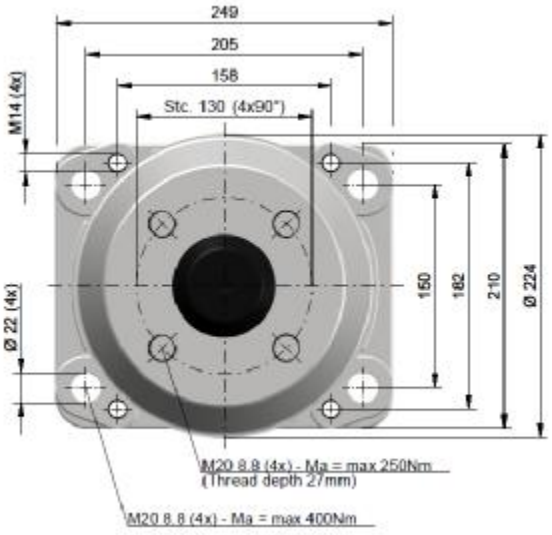
Rubber Hardness [°Sh. A]	45	50	55	60	65	70
Max Marine load [kN]	52	57	65	71	81	97
Max Static load [kN]	62	67	77	84	97	115
Max Static vert. defl. [mm]	15	14,5	14	13,5	12,5	11,5

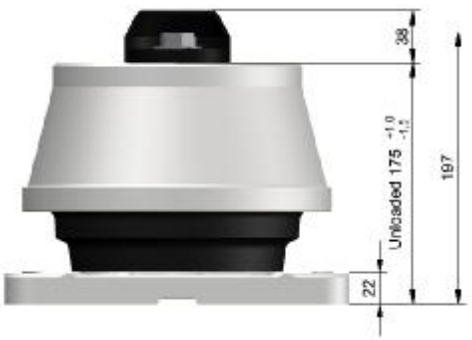
CHARACTERISTICS

Max Shockload	150 kN (all directions)

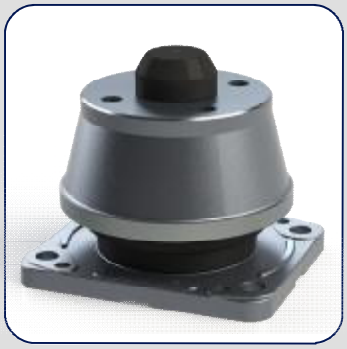
SHOCKLOAD

TYPE APPROVALS





DIMENSIONS



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DOCUMENTATION SHEET

Conical Mountings
Type RD 214 height re-adjustable

RD 214
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

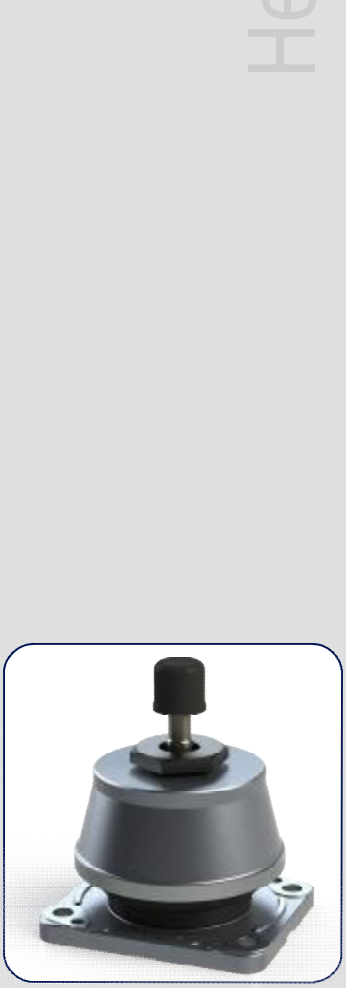
Rubber Hardness [°Sh. A]	45	50	55	60	65	70
Max Marine load [kN]	52	57	65	71	81	97
Max Static load [kN]	62	67	77	84	97	115
Max Static vert. defl. [mm]	15	14,5	14	13,5	12,5	11,5

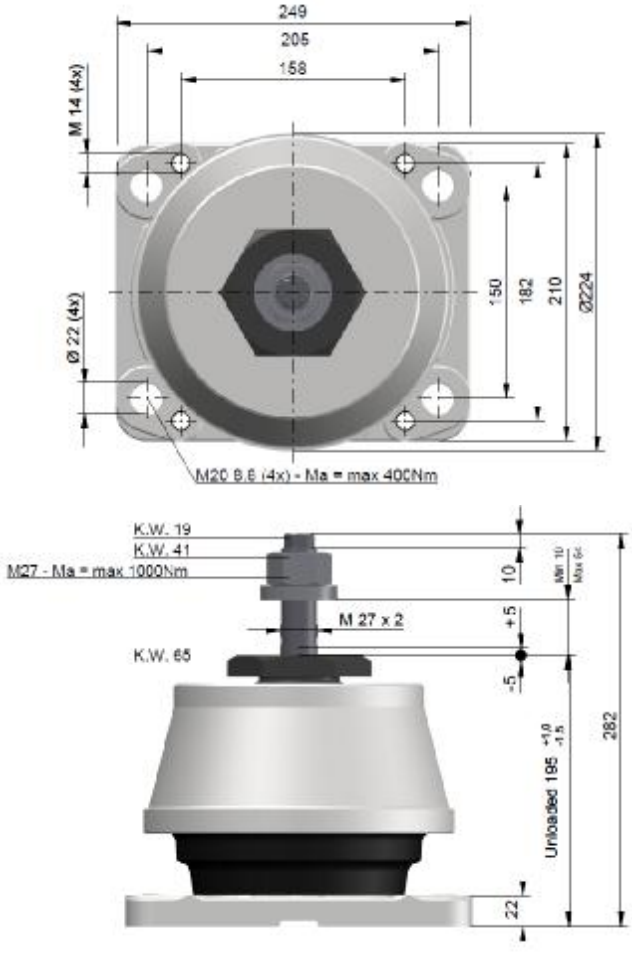
CHARACTERISTICS

Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 214

RD 214

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

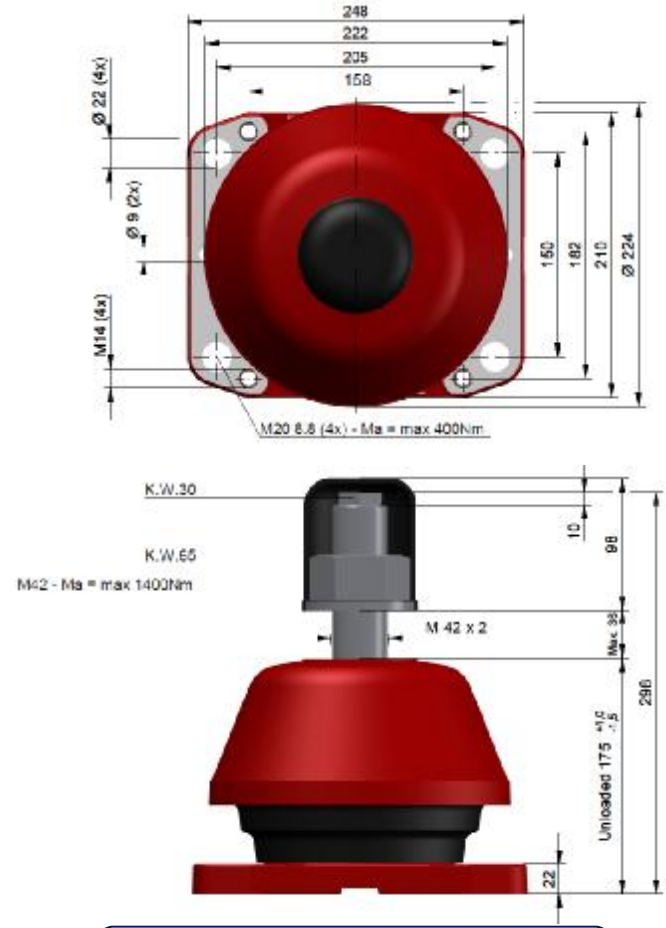
Rubber Hardness [°Sh. A]	45	50	55	60	65	70
Max Marine load [kN]	52	57	65	71	81	97
Max Static load [kN]	62	67	77	84	97	115
Max Static vert. defl. [mm]	15	14,5	14	13,5	12,5	11,5

CHARACTERISTICS

Max Shockload	230 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 214 height re-adjustable

RD 214
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

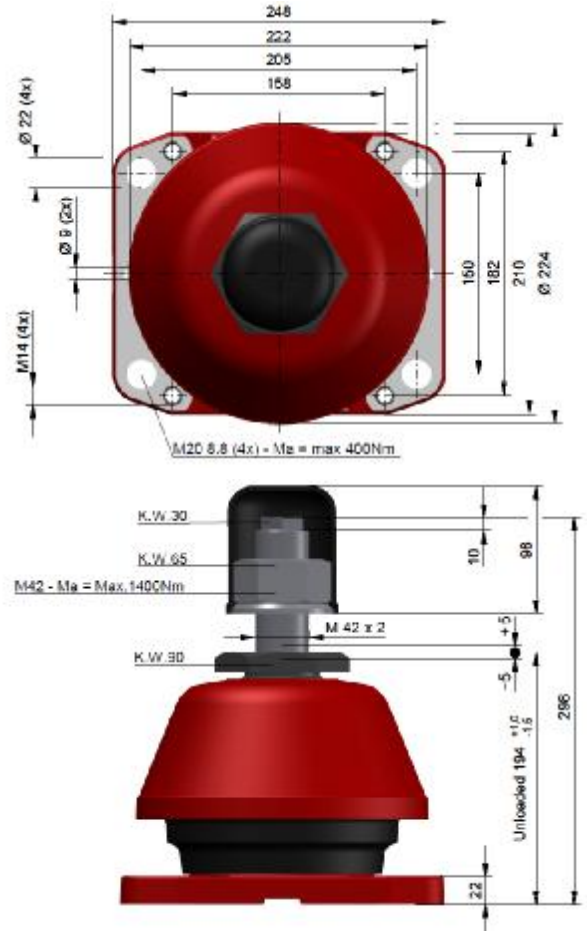
Rubber Hardness [°Sh. A]	45	50	55	60	65	70
Max Marine load [kN]	52	57	65	71	81	97
Max Static load [kN]	62	67	77	84	97	115
Max Static vert. defl. [mm]	15	14,5	14	13,5	12,5	11,5

CHARACTERISTICS

Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 214X

RD 214X

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

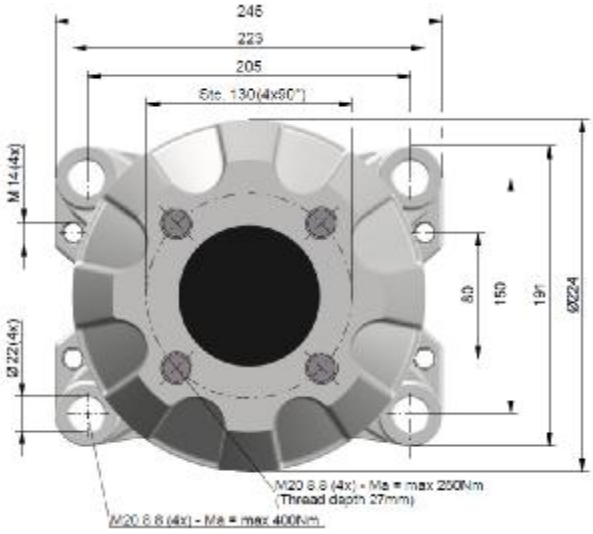
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	78	87	97	106	116
Max Static load [kN]	90	100	113	123	131
Max Static vert. defl. [mm]	14,5	14	13,5	13	12,5

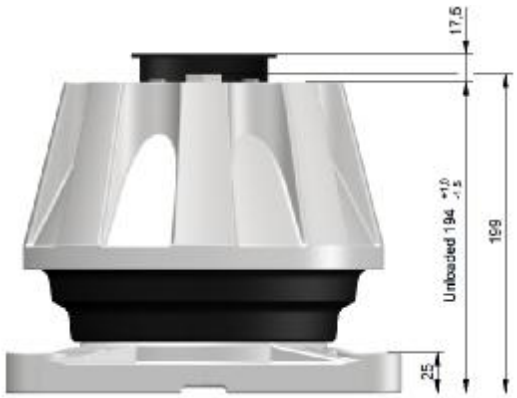
CHARACTERISTICS

Max Shockload	150 kN (all directions)

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

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Conical Mountings
Type RD 214X

RD 214X

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

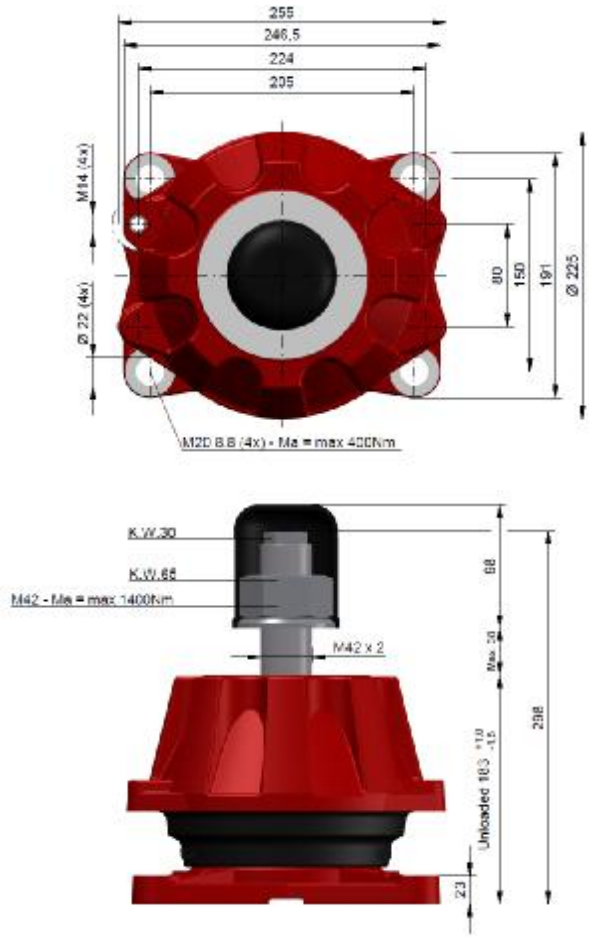
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	78	87	97	106	116
Max Static load [kN]	90	100	113	123	131
Max Static vert. defl. [mm]	14,5	14	13,5	13	12,5

CHARACTERISTICS

Max Shockload	230 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

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Conical Mountings
Type RD 214X

RD 214X
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

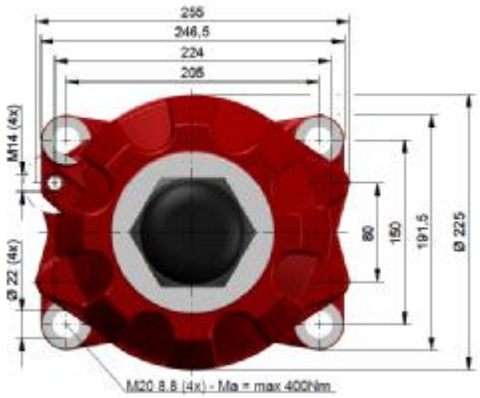
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	78	87	97	106	116
Max Static load [kN]	90	100	113	123	131
Max Static vert. defl. [mm]	14,5	14	13,5	13	12,5

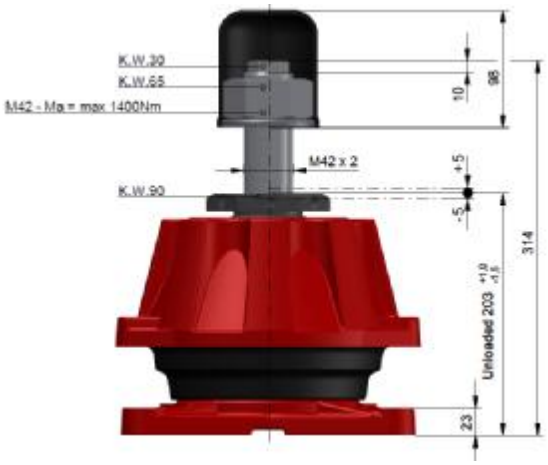
CHARACTERISTICS

Max Shockload	230 kN (all directions)

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

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Conical Mountings
Type RD 215

RD 215

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

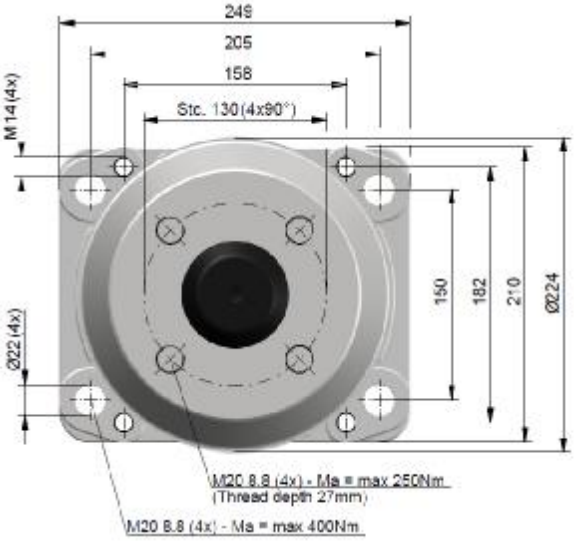
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	37	43	51
Max Static load [kN]	28	35	43	49	58
Max Static vert. defl. [mm]	16,2	15,8	15,3	15,0	14,4

CHARACTERISTICS

Max Shockload	150 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 215

RD 215
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

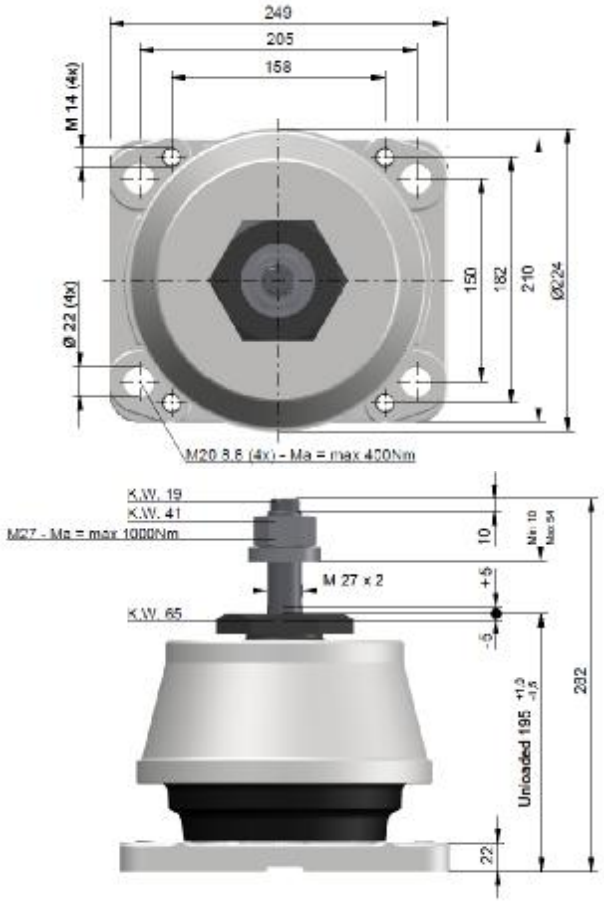
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	37	43	51
Max Static load [kN]	28	35	43	49	58
Max Static vert. defl. [mm]	16,2	15,8	15,3	15,0	14,4

CHARACTERISTICS

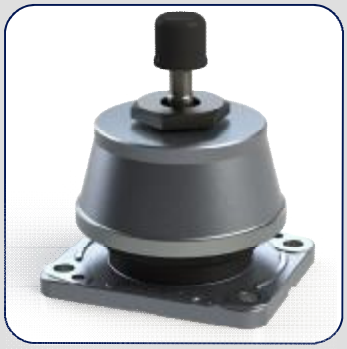
Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS



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Conical Mountings
Type RD 215

RD 215

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

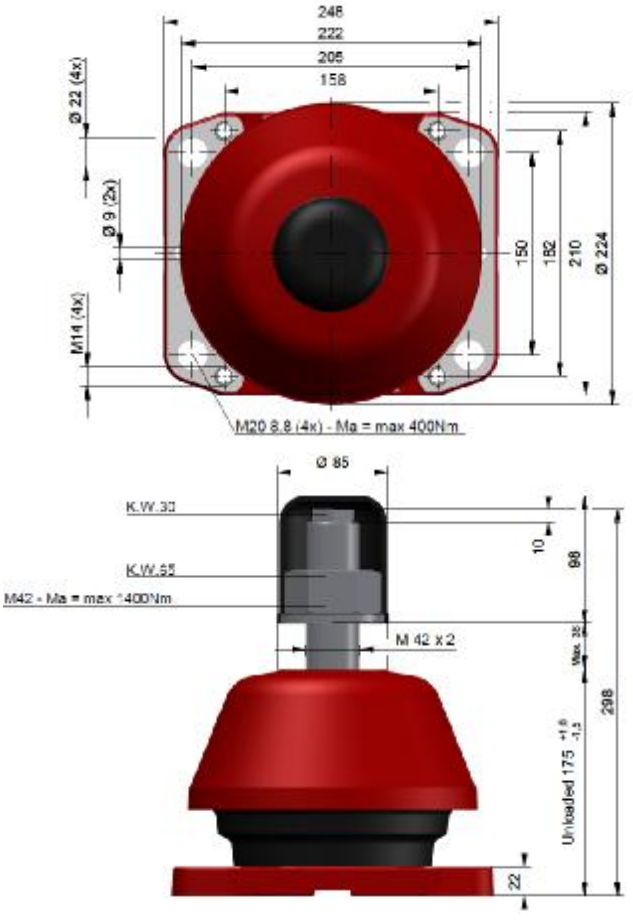
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	37	43	51
Max Static load [kN]	28	35	43	49	58
Max Static vert. defl. [mm]	16,2	15,8	15,3	15,0	14,4

CHARACTERISTICS

Max Shockload	230 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 215

RD 215
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

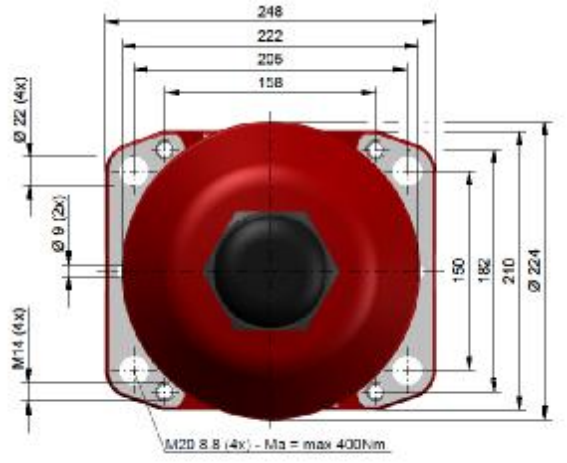
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	37	43	51
Max Static load [kN]	28	35	43	49	58
Max Static vert. defl. [mm]	16,2	15,8	15,3	15,0	14,4

CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 244

RD 244

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

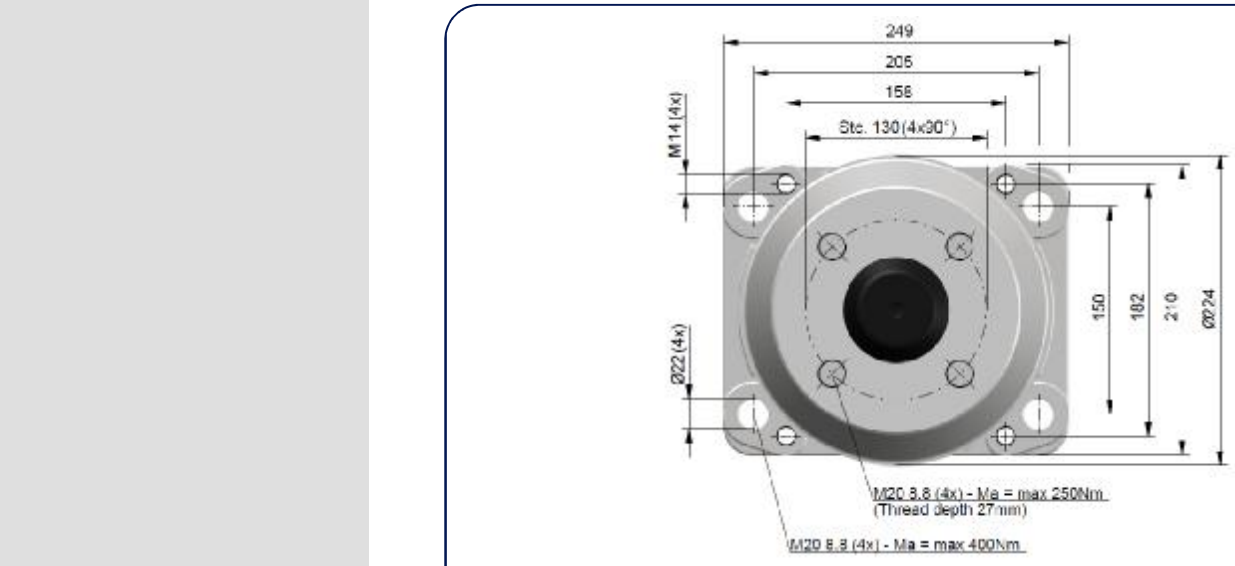
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	36	42	48
Max Static load [kN]	29	34	42	45	53
Max Static vert. defl. [mm]	14	13,5	13	12,2	11,5

CHARACTERISTICS

Max Shockload	150 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 244

RD 244
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

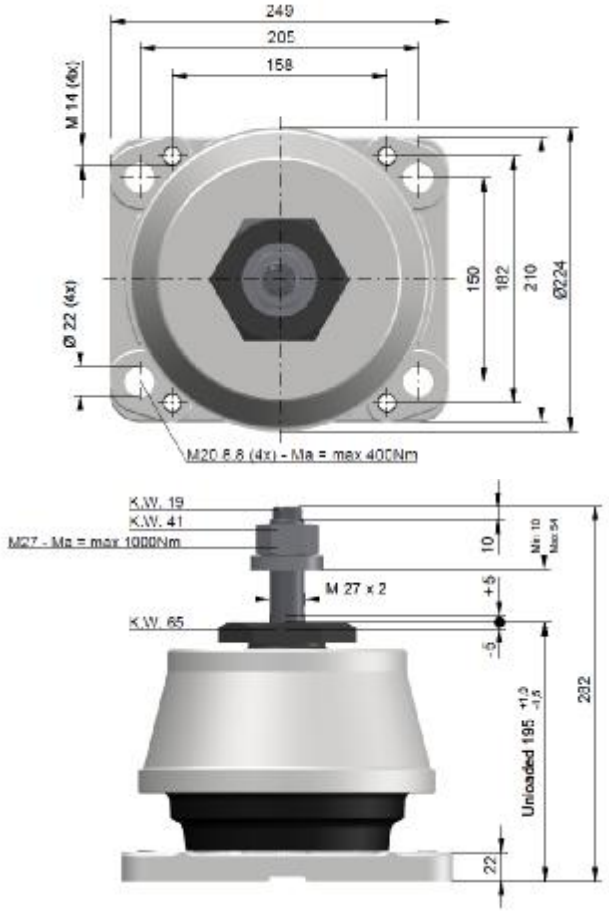
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	36	42	48
Max Static load [kN]	29	34	42	45	53
Max Static vert. defl. [mm]	14	13,5	13	12,2	11,5

CHARACTERISTICS

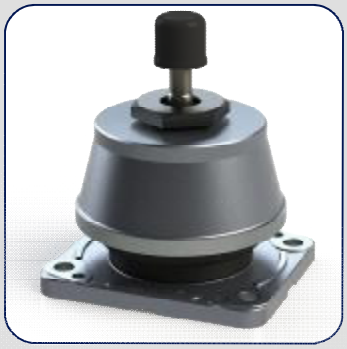
Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS



DOCUMENTATION SHEET

Conical Mountings
Type RD 244

RD 244

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

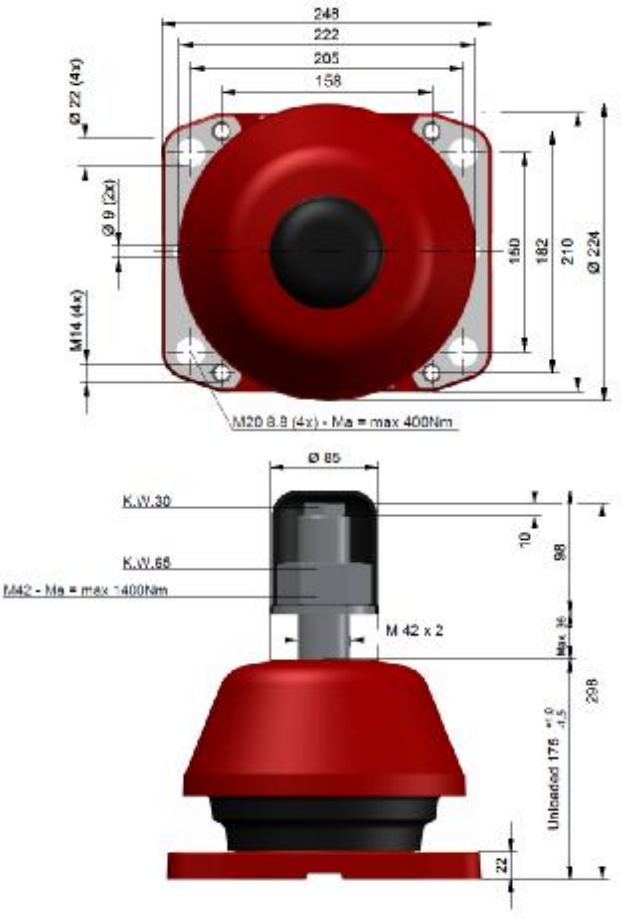
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	36	42	48
Max Static load [kN]	29	34	42	45	53
Max Static vert. defl. [mm]	14	13,5	13	12,2	11,5

CHARACTERISTICS

Max Shockload	230 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 244

RD 244
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

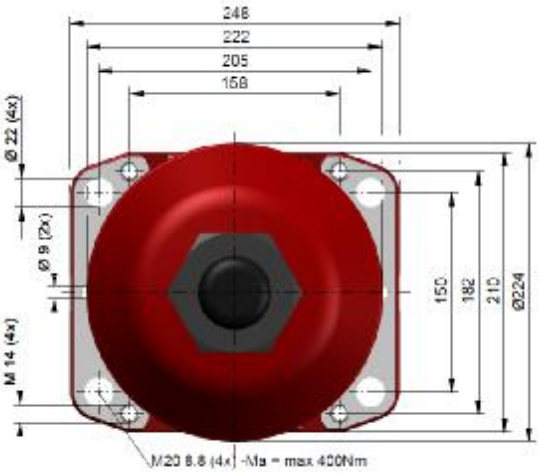
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	25	30	36	42	48
Max Static load [kN]	29	34	42	45	53
Max Static vert. defl. [mm]	14	13,5	13	12,2	11,5

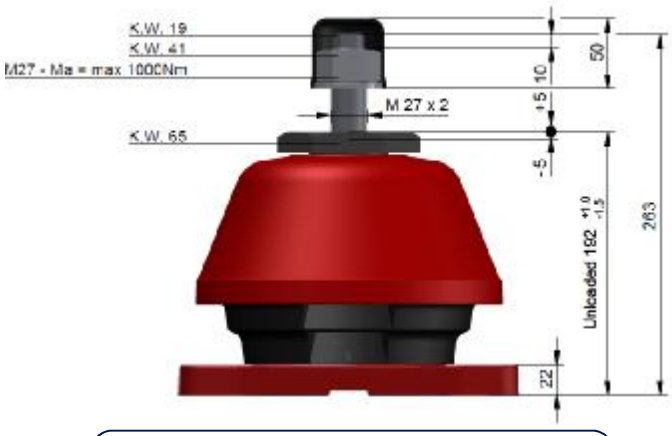
CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 314

RD 314

Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]	4	4	3

CLEARANCE

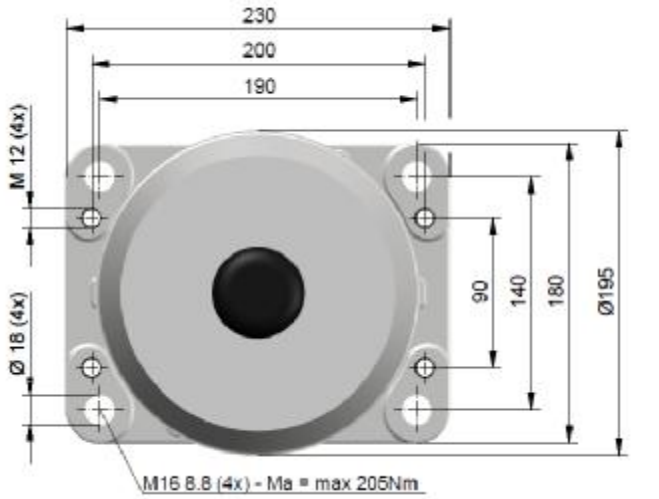
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	29	36	43	48	54
Max Static load [kN]	33	41	50	56	63
Max Static vert. defl. [mm]	12,2	11,6	11	10,5	9,8

CHARACTERISTICS

Max Shockload	70 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings

Type RD 314 height re-adjustable

RD 314

Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

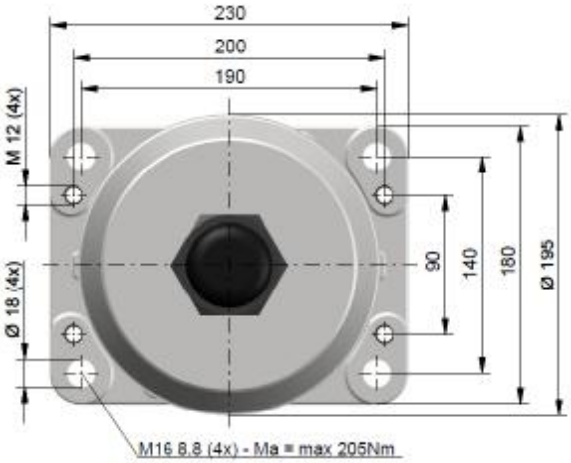
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	29	36	43	48	54
Max Static load [kN]	33	41	50	56	63
Max Static vert. defl. [mm]	14	13,5	13	12,2	11,5

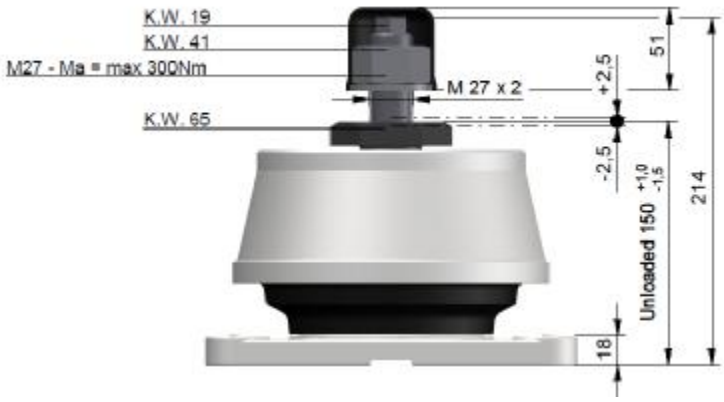
CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 314

RD 314

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

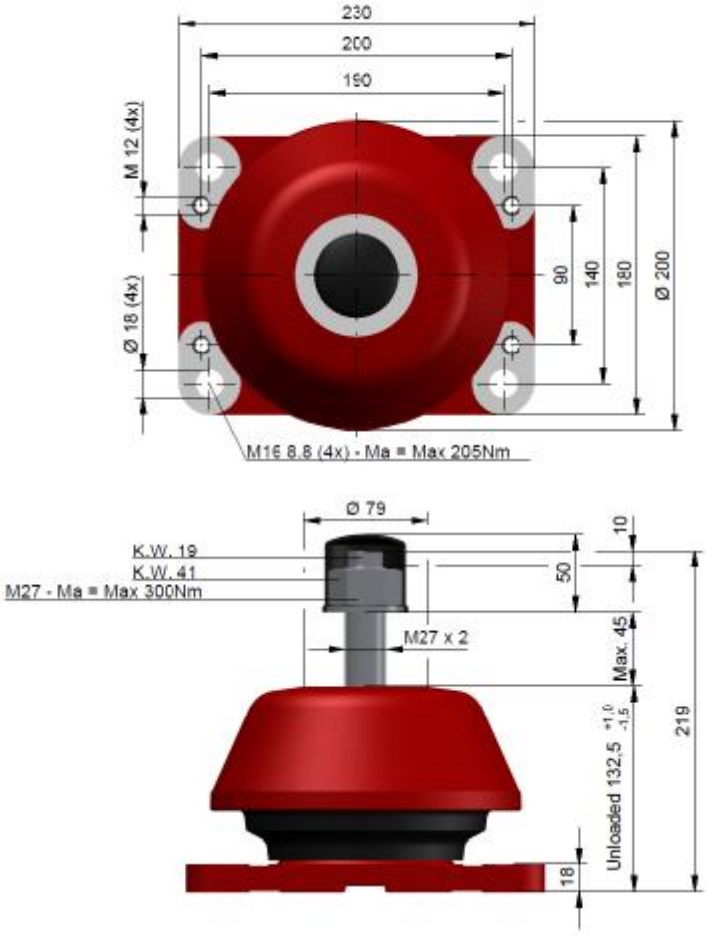
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	29	36	43	48	54
Max Static load [kN]	33	41	50	56	63
Max Static vert. defl. [mm]	12,2	11,6	11	10,5	9,8

CHARACTERISTICS

Max Shockload	160 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings

Type RD 314 height re-adjustable

RD 314

Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

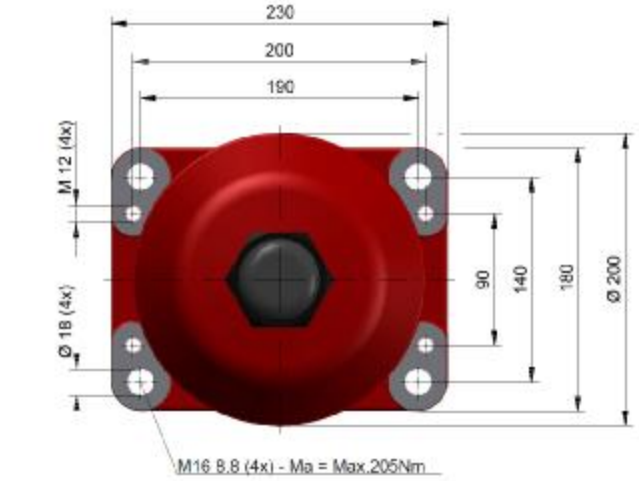
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	29	36	43	48	54
Max Static load [kN]	33	41	50	56	63
Max Static vert. defl. [mm]	12,2	11,6	11	10,5	9,8

CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 315

RD 315

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

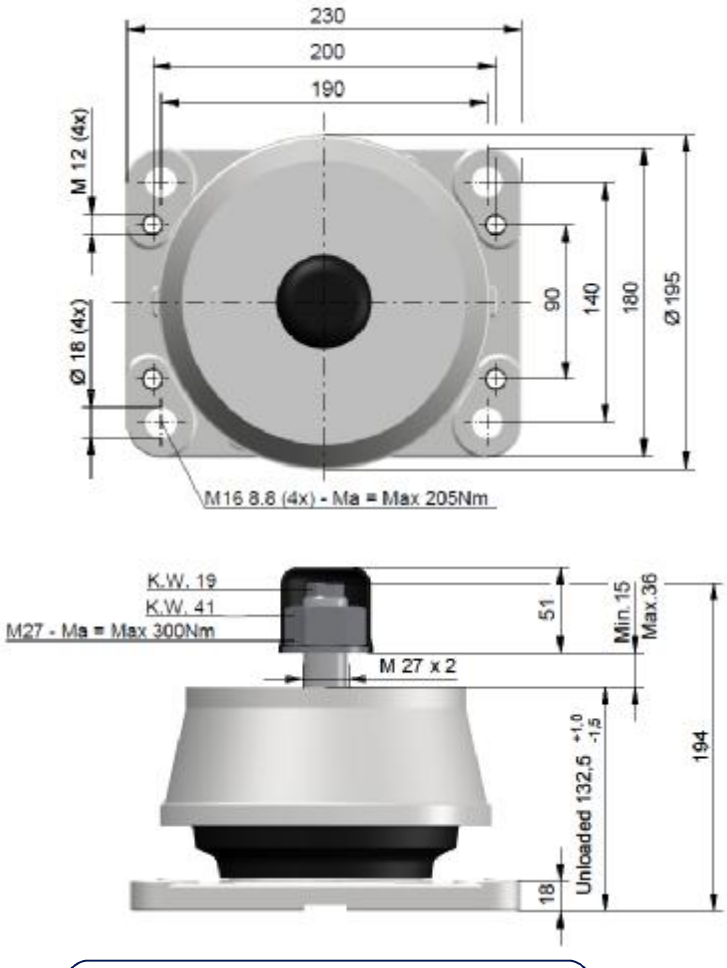
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	16	20	26	30	33
Max Static load [kN]	18	22	30	35	39
Max Static vert. defl. [mm]	14,5	14,2	14	13,6	13

CHARACTERISTICS

Max Shockload	70 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 315

RD 315
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

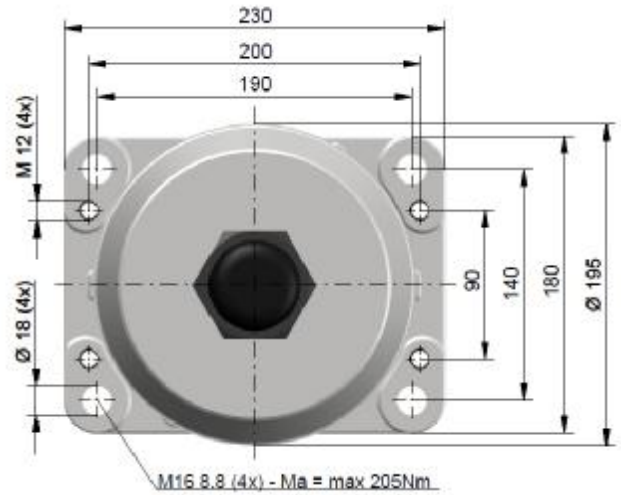
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	16	20	26	30	33
Max Static load [kN]	18	22	30	35	39
Max Static vert. defl. [mm]	14,5	14,2	14	13,6	13

CHARACTERISTICS

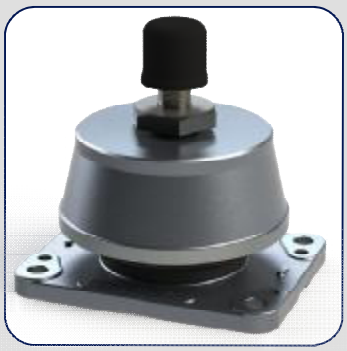
Max Shockload	70 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS



Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 315

RD 315

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

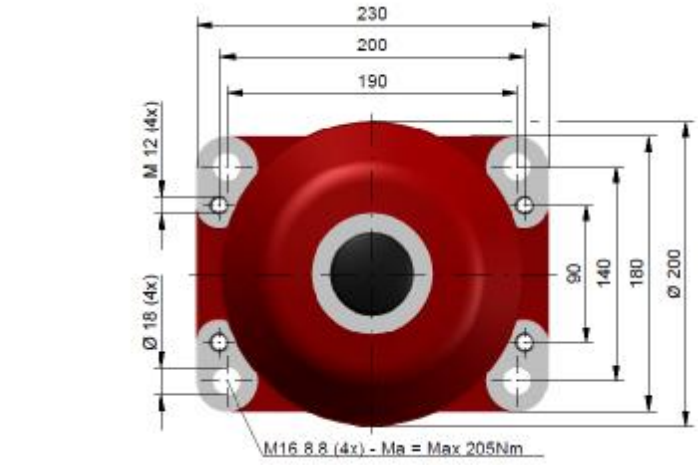
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	16	20	26	30	33
Max Static load [kN]	18	22	30	35	39
Max Static vert. defl. [mm]	14,5	14,2	14	13,6	13

CHARACTERISTICS

Max Shockload	160 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 315

RD 315
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

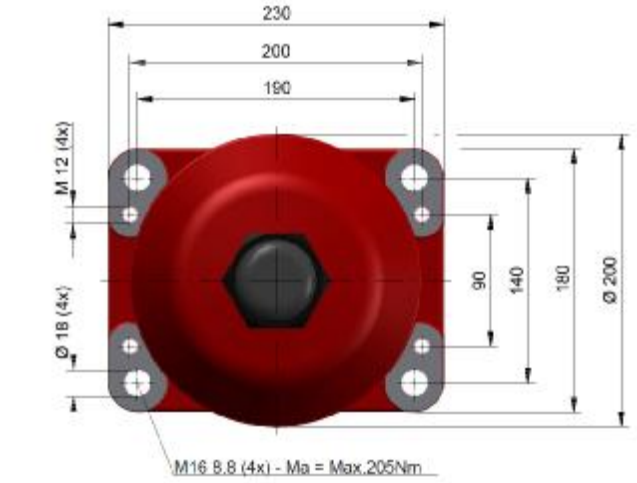
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	16	20	26	30	33
Max Static load [kN]	18	22	30	35	39
Max Static vert. defl. [mm]	14,5	14,2	14	13,6	13

CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 344

RD 344

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

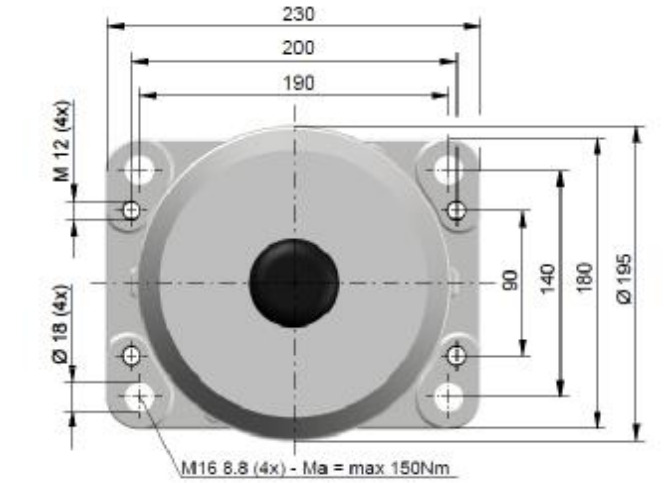
Rubber Hardness [°Sh. A]	55	60	65
Max Marine load [kN]	27,5	33	38,5
Max Static load [kN]	32	37,5	45
Max Static vert. defl. [mm]	11,5	11	10,5

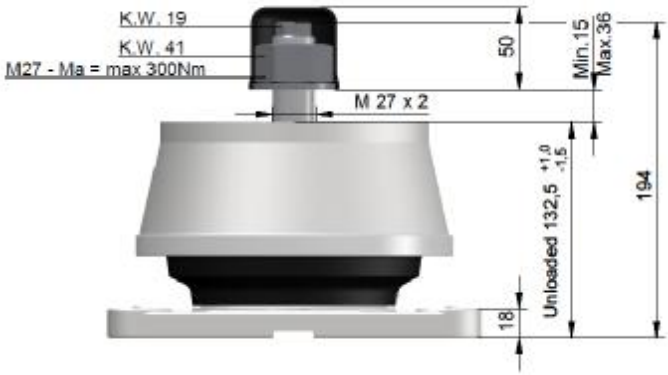
CHARACTERISTICS

Max Shockload	70 kN (all directions)

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 344

RD 344
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

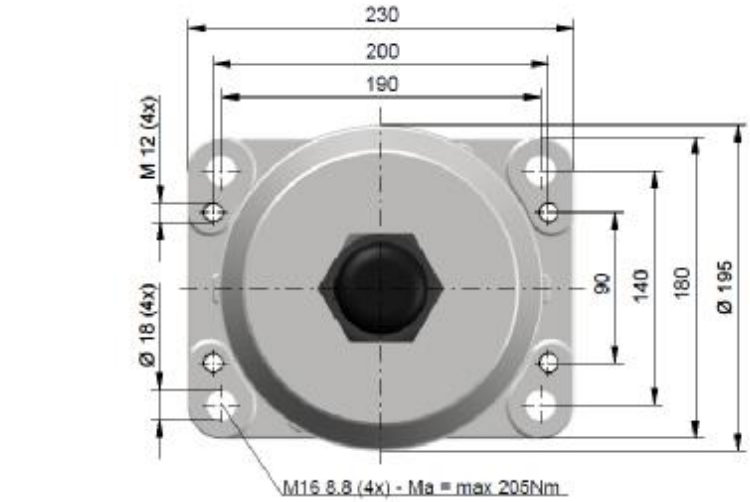
Rubber Hardness [°Sh. A]	55	60	65
Max Marine load [kN]	27,5	38,5	44
Max Static load [kN]	32	45	52
Max Static vert. defl. [mm]	11,5	10,5	10,8

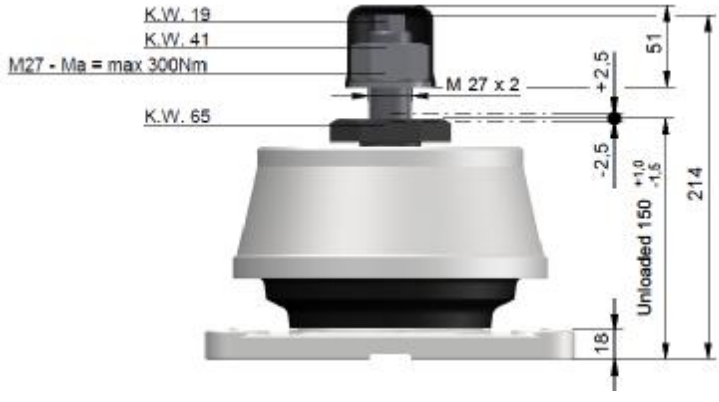
CHARACTERISTICS

Max Shockload	Contact Rubber Design

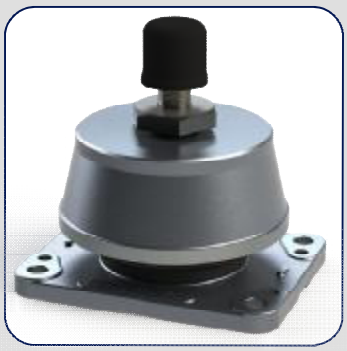
SHOCKLOAD

TYPE APPROVALS





DIMENSIONS



Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 344

RD 344

Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]	4	4	3

CLEARANCE

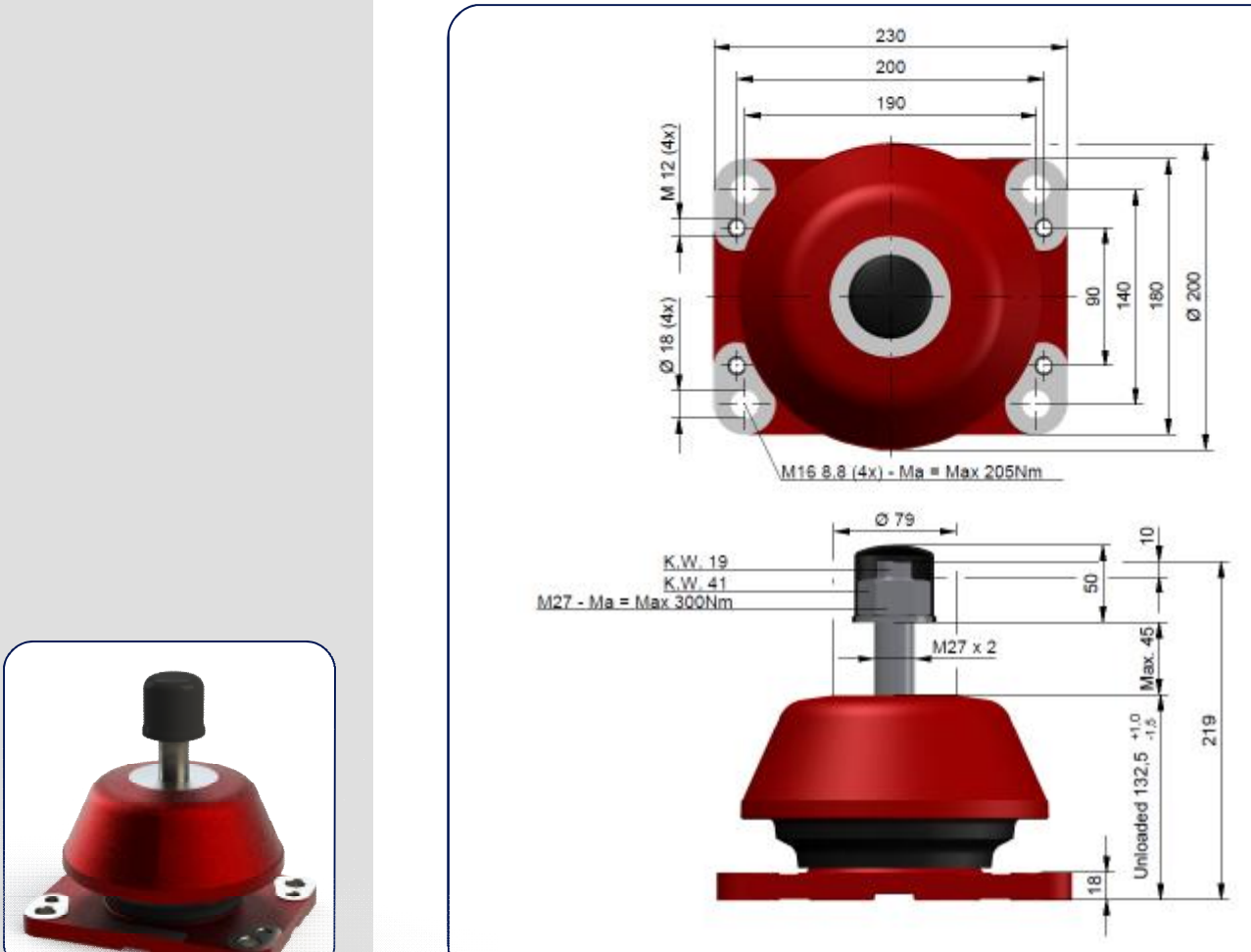
Rubber Hardness [°Sh. A]	55	60	65
Max Marine load [kN]	27,5	33	38,5
Max Static load [kN]	32	37,5	45
Max Static vert. defl. [mm]	11,5	11	10,5

CHARACTERISTICS

Max Shockload	160 kN (all directions)

SHOCKLOAD

TYPE APPROVALS



DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 344

RD 344
Height re-adjustable

	Direction	Vertical up	Vertical down	Radial
Displacement limiter clearance [mm]		4	4	3

CLEARANCE

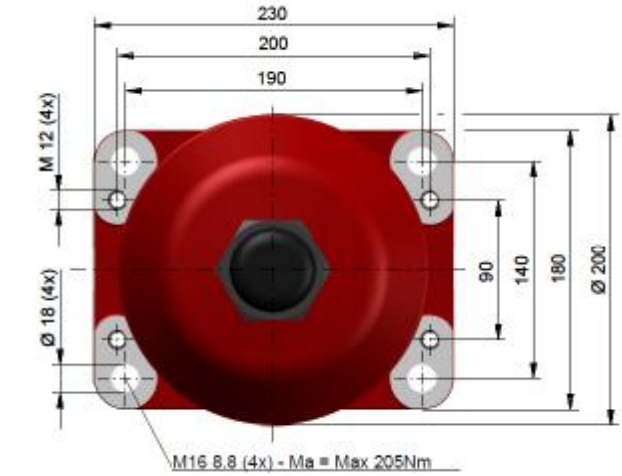
Rubber Hardness [°Sh. A]	55	60	65
Max Marine load [kN]	27,5	33	38,5
Max Static load [kN]	32	37,5	45
Max Static vert. defl. [mm]	11,5	11	10,5

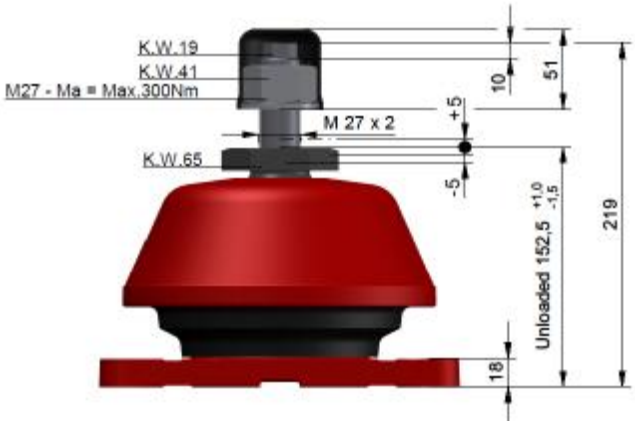
CHARACTERISTICS

Max Shockload	Contact Rubber Design

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 414

RD 414

Direction	Vertical up	Vertical down	Radial
Clearance [mm]	3	9	2,5

Vertical depending on deflection

CLEARANCE

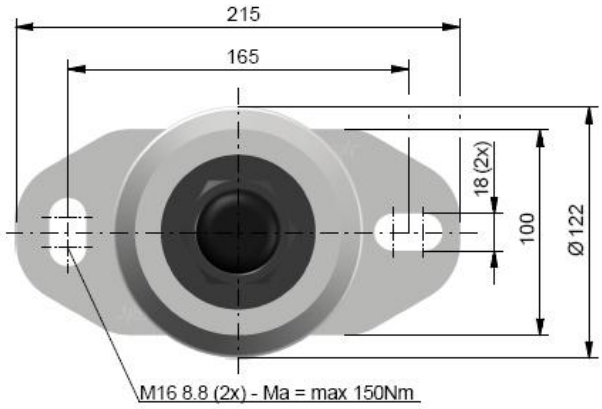
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	11,0	12,2	13,6	14,6	16,2
Max Static load [kN]	12,5	13,6	14,9	16,4	18,0
Max Static vert. defl. [mm]	7,6	7,3	6,8	6,5	6,1

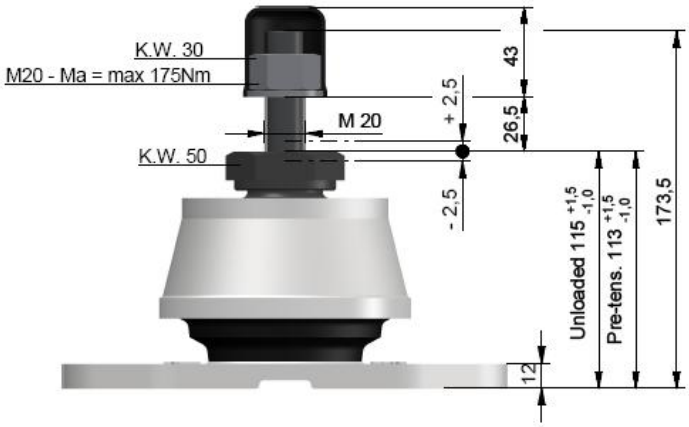
CHARACTERISTICS

Shockload	25 kN (all directions)

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mountings
Type RD 415

RD 415

Direction	Vertical up	Vertical down	Radial
Clearance [mm]	5,4	6,2	7,1

Vertical depending on deflection

CLEARANCE

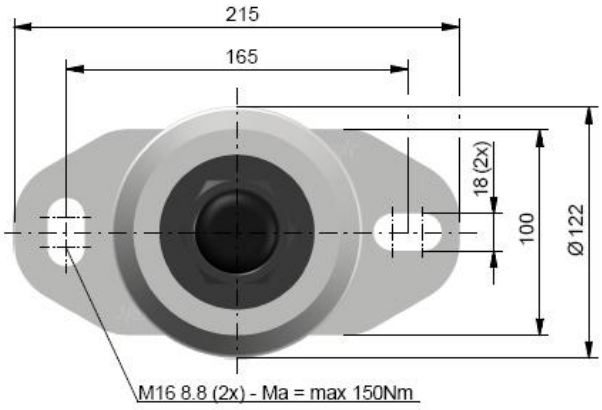
Rubber Hardness [°Sh. A]	45	50	55	60	65
Max Marine load [kN]	5,2	6,3	7,5	8,4	9,2
Max Static load [kN]	5,7	7,2	8,8	9,7	10,7
Max Static vert. defl. [mm]	9,2	9,1	8,9	8,7	8,4

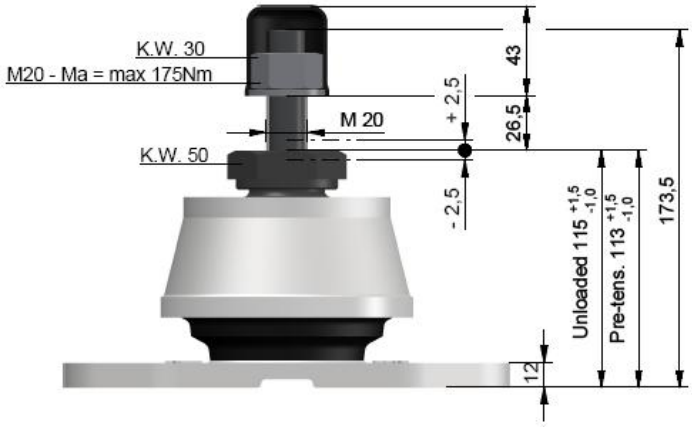
CHARACTERISTICS

Shockload	25 kN (all directions)

SHOCKLOAD

TYPE APPROVALS





DIMENSIONS

Rubber Design
vibration and noise control

DOCUMENTATION SHEET

Conical Mounting
Required information

REQUIRED INFORMATION

General

The table below contains information that is necessary to design a suitable flexible suspension

	APPLICATION										
	MARINE							STATIONARY			
	MAIN ENGINES	AUXILIARY ENGINES	EXHAUST SYSTEM	DECKHOUSE	CONTROL CABIN	COMPRESSOR UNIT	PUMP UNIT	GENERATORSET	COMPRESSOR UNIT	PUMP UNIT	MISCELLANEOUS
Description of installation + drawing(s)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturer / Type	✓	✓				✓	✓	✓	✓	✓	✓
Number of cilinders / 2-4 stroke / I-V	✓	✓	✓			✓	✓	✓	✓		✓
Mass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Centre of gravity in X, Y, Z direction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mass moments of inerties - 3 axes	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Number of mountings + positions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Details flexible coupling(s)	✓										✓
Details compensator(s)	✓	✓	✓			✓	✓	✓	✓	✓	✓
Reduction gearbox	✓										✓
Operating speed + output Idling	✓		✓								✓
Operating speed + output Normal	✓	✓	✓			✓	✓	✓	✓	✓	✓
Operating speed + output Maximum	✓		✓								✓
Number of revolutions of propeller shaft	✓	✓	✓	✓	✓	✓	✓				
Number of propeller blades	✓	✓	✓	✓	✓	✓	✓				
Free forces / moments	✓	✓				✓	✓	✓	✓	✓	✓
Type of vessel + classification	✓	✓	✓	✓	✓	✓	✓				
Seaway conditions	✓	✓	✓	✓	✓	✓	✓				
Shock conditions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ambient temperature	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Preserving requirements	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

TABLE