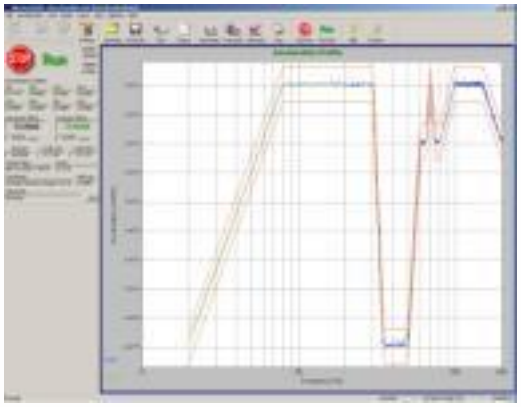
Вибрационные испытания

Все лучшее Вам

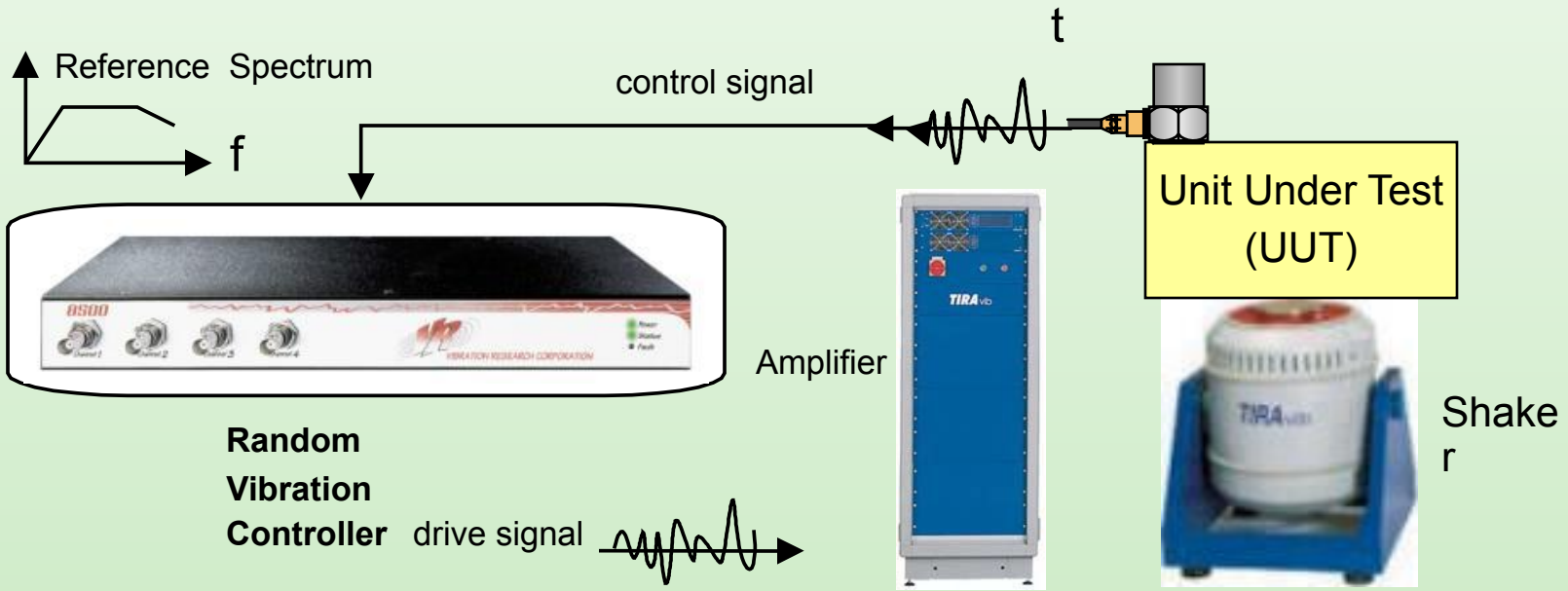


Полноценная система проведения вибрационных испытаний.

Контроллер для воспроизведения реальных условий внешних воздействий на изделие.

Система обычно состоит из:

- Вибратор(возбудитель) - Tira
- Усилитель мощности - Tira
- Контроллер - VRC 8500 (у B&K 1059)
- Акселерометр - B&K или Endevco



Где проводятся вибрационные испытания

Предприятия и испытательные лаборатории, чьи продукты или продукты их клиентов подвергаются значимой вибрации в процессе эксплуатации или транспортировки

- Автомобильная промышленность
- Электроника
- Аэрокосмическая/Оборонная пр-ти
- Медицина
- Хрупкие продукты

Вибрационные испытательные системы до 440N

Typ		TV 50009	TV 50018	TV 51075	TV 51110
Shaker		**S 501**	**S 502**	**S 511**	**S 513**
Amplifier		**BAA 60**	**BAA 60**	**BAA 120**	**BAA 120**
Rated peak force (N)	Sine/Random	9/-	18/-	75/40	100/70
Frequency range (Hz)		2-12000	2-11000	DC-7000	DC-7000
Max. rated travel (mm)	Pk - Pk	3	5	10	13
Max. velocity (m/s)	Sine/Random	1/-	1/-	1.5/1.5	1.5/1.5
Max. acceleration (g)	Sine/Random	60/-	65/-	51/27	44/31
Rated current (A)		2.7	3.8	5.5	5.5
Nominal impedance (Ohm)		4	4	4	4
Suspension Stiffness (N/mm)		4	4.4	6.5	8
Effective moving mass (kg)		0.015	0.028	0.15	0.23
Main resonance frequency (Hz)		>12000	>11000	>5500	>6500
Weight (without trunnion) (kg)		1.9(1.5)	4.5 (3.2)	18	10
Armature (ø/mm)		7	7	40	60
Cooling (m³/h)		-	-	-	-

System		TV 51120	TV 52110	TV52120	TV 51144
Shaker		**S 514**	**S 521**	**S 522**	**S 540**
Amplifier		**BAA 500**	**BAA 120**	**BAA 500**	**BAA 1000**
Rated peak force (N)	Sine/Random	200/140	100/50	200/100	440/311
Frequency range (Hz)		DC-7000	DC-7000	DC-7000	DC-6500
Max. rated travel (mm)	Pk - Pk	13	15 (25*)	15 (25*)	25.4
Max. velocity (m/s)	Sine/Random	1.5/1.5	1.5/1.5	1.5/1.5	1.5/1.5
Max. acceleration (g)	Sine/Random	87/61	50/25	100/50	100/79
Rated current (A)		11.2	5.5	11.2	8
Nominal impedance (Ohm)		4	4	4	4
Suspension Stiffness (N/mm)		8	5	5	5
Effective moving mass (kg)		0.23	0.2	0.2	0.4
Main resonance frequency (Hz)		>6500	>5500	>5500	>5500
Weight with trunnion (kg)		10	30	30	21
Armature (ø/mm)		60	60	60	60
Cooling (m³/h)		40	40	40	40

Вибрационные испытательные системы от 650 N до 2,7 kN

System		TV 50101	TV 50101/LS	TV 5220	TV 5220/LS
Shaker		TV 50100	TV 50100/LS	TV 5200	TV 5200/LS
Amplifier		BAA 1000-E	BAA 1000-E	BAA 1000-E	BAA 1000-E
Rated peak force (N)	Sine/Random/Shock	650/420/840	650/420/840	1000/650/1300	1000/650/1300
Frequency range (Hz)		DC-7000	DC-7000	DC-7000	DC-7000
Max. rated travel (mm)	Pk-Pk	25.4	50.8	25.4	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.0
Max. acceleration (g)	Sine/Random/Shock	50/32/64	41/26/53	72/47/93	59/38/77
Rated current (A)		18	18	18	18
Nominal impedance (Ohm)		4	4	4	4
Suspension Stiffness (N/mm)		22	22	22	22
Effective moving mass (kg)		1.3	1.6	1.4	1.7
Max. weight tested (kg)		25	25	25	25
Main resonance frequency (Hz)		>4300	>4300	>5000	>5000
Weight with trunnion (kg)		80	80	80	80
Stray magnetic field (mT)	without/with degauss kit	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5
Armature (ø/mm)		80	80	120	120
Cooling (m³/h)		80	80	80	80
Interlocks		Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow

System		TV 50303	TV 50303/LS	TV 50350	TV 50350/LS
Shaker		TV 50300	TV 50300/LS	TV 50301	TV 50301/LS
Amplifier		BAA 2000-E	BAA 2000-E	A51260	A51260
Rated peak force (N)	Sine/Random/Shock	2000/1000/2000	2000/1000/2000	2700/2000/4000	2700/2000/4000
Frequency range (Hz)		DC-4000	DC-4000	DC - 4000	DC - 4000
Max. rated travel (mm)	Pk-Pk	25.4	50.8	25.4	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.5/1.5/2.0	1.5/1.5/2.0	1.5/1.5/2.5	1.5/1.5/2.5
Max. acceleration (g)	Sine/Random/Shock	80/40/80	73/39/73	108/80/160	98/73/145
Rated current (A)		18	18	36	36
Nominal impedance (Ohm)		4	4	2	2
Suspension Stiffness (N/mm)		22	22	22	22
Effective moving mass (kg)		2.5	2.8	2.5	2.8
Max. weight tested (kg)		35	35	35	35
Main resonance frequency (Hz)		>3000	>3000	>3000	>3000
Weight with trunnion (kg)		270	270	270	270
Stray magnetic field (mT)	without/with degauss kit	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5
Armature (ø/mm)		120	120	120	120
Cooling (m³/h)		100	100	200	200
Interlocks		Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow

Вибрационные испытательные системы от 4 кN до 8 кN

System		TV 5550/LS	TV 56263/LS	V 56263/LS-34	TV 5880/LS	TV 5880/LS-340
Shaker		TV 5500/LS	S 561/LS	S 561/LS-340	TV 5800/LS	TV 5800/LS-340
Amplifier		A 51312	A 52312	A 52312	A 52318	A 52318
Rated peak force (N)	Sine/Random/Shock	4000/4000/8000	6300/6300/12600	6300/6300/12600	8000/8000/16000	8000/8000/16000
Frequency range (Hz)		DC - 3000	DC - 3000	DC - 3000	DC - 3000	DC - 3000
Max. rated travel (mm)	Pk - Pk	50.8	50.8	50.8	50.8	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.7/1.7/2.0	1.7/1.7/2.5	1.7/1.7/2.5	1.7/1.7/2.5	1.7/1.7/2.5
Max. acceleration (g)	Sine/Random/Shock	53/53/106	79/79/158	76/76/152	91/91/182	88/88/176
Rated current (A)		90	90	90	140	140
Nominal impedance (Ohm)		0.9	0.5	0.5	0.5	0.5
Suspension Stiffness (N/mm)		50	50	50	50	50
Effective moving mass (kg)		7.5	8	8.5	8.8	9.3
Max. weight tested (kg)		100	150	150	150	150
Main resonance frequency (Hz)		>3000	>3000	>2500	>3000	>2500
Weight with trunnion (kg)		750	1000	1000	1000	1000
Stray magnetic field (mT)	without/with degauss kit	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5	<8.5/<0.5
Armature (ø/mm)		180	180	340	180	340
Cooling (m^3/h)		280	500	500	500	500
Interlocks		Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow

Вибрационные испытательные системы 11 KN to 15 KN

Typ		TV 51010/LS	TV 51010/LS-340	TV 57315/LS	TV 57315/LS-340
Shaker		**TV 51000/LS**	**TV 51000/LS-340**	**S 572/LS**	**S 572/LS-340**
Amplifier		**A 53318**	**A 53318**	**A 53330**	**A 53330**
Rated peak force (N)	Sine/Random/Shock	11000/11000/22000	11000/11000/22000	15000/15000/30000	15000/15000/30000
Frequency range (Hz)		DC - 3000	DC - 3000	DC - 3000	DC - 3000
Max. rated travel (mm)	Pk - Pk	50.8	50.8	50.8	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5
Max. acceleration (g)	Sine/Random/Shock	100/100/200	90/90/180	115/115/230	102/102/204
Rated current (A)		140	140	150	150
Nominal impedance (Ohm)		0.5	0.5	0.5	0.5
Suspension Stiffness (N/mm)		75	75	75	75
Effective moving mass (kg)		11	12.5	13	15
Max. weight tested (kg)		150	150	250	250
Main resonance frequency (Hz)		>2500	>2000	>2500	>2000
Weight with trunnion (kg)		1450	1450	1450	1450
Stray magnetic field (mT)	without/with degauss kit	<8.5/<0.5	<8.5/<0.5	<20/<0.5	<20/<0.5
Armature (ø/mm)		220	340	220	340
Cooling (m³/h)		500	500	510	510
Interlocks		Temperature	Temperature	Temperature	Temperature
		Overtravel	Overtravel	Overtravel	Overtravel
		Airflow	Airflow	Airflow	Airflow

Вибрационные испытательные системы свыше 20 кN

Typ		TV 59327/*-330	TV 59327/*-440	TV 59327/*-640	TV 59335/*-330	TV 59335/*-440	TV59335/*-640
Shaker		**S 596/LS**	**S 596/LS**	**S 596/LS**	**S 595/LS**	**S 595/LS**	**S 595/LS**
Amplifier		**A 54336**	**A 54336**	**A 54336**	**A54342**	**A54342**	**A54342**
Rated peak force (N)	Sine/Random/Shock	26700/26700/53400	26700/26700/53400	26700/26700/53400	35000/35000/70000	35000/35000/70000	35000/35000/70000
Frequency range (Hz)		DC - 3000	DC - 3000	DC - 3000	DC - 3000	DC - 3000	DC - 3000
Max. rated travel (mm)	Pk - Pk	50.8	50.8	50.8	50.8	50.8	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5
Max. acceleration (g)	Sine/Random/Shock	103/103/206	97/97/194	68/68/136	123/123/246	99/99/198	85/85/170
Rated current (A)		200	200	200			
Nominal impedance (Ohm)		0.3	0.3	0.3	0.3	0.3	0.3
Suspension Stiffness (N/mm)		150	150	150	150	150	150
Effective moving mass (kg)		26.5	28	40	29	36	42
Max. weight tested (kg)		610	610	610	610	610	610
Main resonance frequency (Hz)		>2000	>2000	>2000	>2000	>2000	>2000
Weight with RIT-trunnion / (AIT-trunnion) (kg)		2650 (2880)	2650 (2880)	2650 (2880)	2650 (2880)	2650 (2880)	2650 (2880)
Stray magnetic field (mT)	without/with degauss kit	<20/<0.5	<20/<0.5	<20/<0.5	<20/<0.5	<20/<0.5	<20/<0.5
Armature (ø/mm)		330	440	640	330	440	640
Cooling (m^3/h)							
Interlocks		Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow

Vibration generators 26,7 kN

Typ		TV 59327/*-340	TV 59327/*-440	TV 59327/*-640
Shaker		**S 596/LS**	**S 596/LS**	**S 596/LS**
Amplifier		**A 54336**	**A 54336**	**A 54336**
Rated peak force (N)	Sine/Random/Shock	26700/26700/53400	26700/26700/53400	26700/26700/53400
Frequency range (Hz)		DC - 3000	DC - 3000	DC - 3000
Max. rated travel (mm)	Pk - Pk	50.8	50.8	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5
Max. acceleration (g)	Sine/Random/Shock	103/103/206	97/97/194	68/68/136
Rated current (A)		200	200	200
Nominal impedance (Ohm)		0.3	0.3	0.3
Suspension Stiffness (N/mm)		150	150	150
Effective moving mass (kg)		26.5	28	40
Max. weight tested (kg)		610	610	610
Main resonance frequency (Hz)		>2000	>2000	>2000
Weight with RIT-trunnion / (AIT-trunnion) (kg)		2650 (2880)	2650 (2880)	2650 (2880)
Stray magnetic field (mT)	without/with degauss kit	<20/<0.5	<20/<0.5	<20/<0.5
Armature (ø/mm)		330	440	640
Cooling (m³/h)		1560	1560	1560
Interlocks		Temperature Overtravel Airflow	Temperature Overtravel Airflow	Temperature Overtravel Airflow

Вибрационные испытательные системы 35 кN

Typ		TV 59335/*-330	TV 59335/*-440	TV59335/*-640
Shaker		**S 595/LS**	**S 595/LS**	**S 595/LS**
Amplifier		**A54342**	**A54342**	**A54342**
Rated peak force (N)	Sine/Random/Shock	35000/35000/70000	35000/35000/70000	35000/35000/70000
Frequency range (Hz)		DC - 3000	DC - 3000	DC - 3000
Max. rated travel (mm)	Pk - Pk	50.8	50.8	50.8
Max. velocity (m/s)	Sine/Random/Shock	1.8/1.8/2.5	1.8/1.8/2.5	1.8/1.8/2.5
Max. acceleration (g)	Sine/Random/Shock	123/123/246	99/99/198	85/85/170
Rated current (A)				
Nominal impedance (Ohm)		0.3	0.3	0.3
Suspension Stiffness (N/mm)		150	150	150
Effective moving mass (kg)		29	36	42
Max. weight tested (kg)		610	610	610
Main resonance frequency (Hz)		>2000	>2000	>2000
Weight with RIT-trunnion / (AIT-trunnion) (kg)		2650 (2880)	2650 (2880)	2650 (2880)
Stray magnetic field (mT)	without/with degauss kit	<20/<0.5	<20/<0.5	<20/<0.5
Armature (ø/mm)		330	440	640
Cooling (m^3/h)		1560	1560	1560
Interlocks		Temperature	Temperature	Temperature
		Overtravel	Overtravel	Overtravel
		Airflow	Airflow	Airflow

Аналоговые усилители мощности

Amplifer	BAA60	BAA120	BAA500	BAA1000	BAA1000-E
KVA Ratings	60 VA	120 VA	500 VA	1000 VA	1000 VA
Frequenzy Range	1 - 20 kHz	DC - 20 kHz	DC - 20 kHz	DC - 20 kHz	DC - 20 kHz
Voltage-/Current mode	yes/no	yes/yes	yes/yes	yes/yes	yes/yes
Voltage, max.	16 V	22 V	45 V	70 V	70 V
Current, max.	3.8 A	5.5 A	11.2 A	18.0 A	18.0 A
Load Resistance	4 Ohm	4 Ohm	4 Ohm	4 Ohm	4 Ohm
Input Voltage	< 3V	< 3V	< 3V	< 3V	< 3V
Distortion	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %	< 0.1 %
Signal to Noise Ratio	> 90 dB	> 90 dB	> 90 dB	> 90 dB	> 90 dB
Field Supply	no	no	no	no	yes
Voltage, max.	-	-	-	-	30 V
Current, max.	-	-	-	-	5 A
Weight	10 kg	12 kg	25 kg	36 kg	50 kg
Size (WxHXD) mm	483 x 90 x 350	483 x 90 x 450	483 x 90 x 450	483 x 90 x 500	483 x 300 x 500
Interlocks	Overload	Overload	Overload	Overload	Overload
	Temperature	Temperature	Temperature	Temperature	Temperature
	Clipping	Clipping	Clipping	Clipping	Clipping

Цифровые усилители мощности

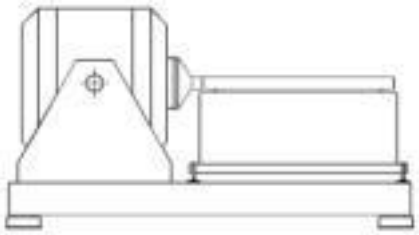
Amplifier	BAA 2000-E	A51260	A 51312	A 52260	A 52312	A 52318
KVA Ratings	2 kVA	6 kVA	12 kVA	6 kVA	12 kVA	18 kVA
Frequenzy Range	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 3 kHz
Voltage, max.	110 V	110 V	110 V	110 V	110 V	110 V
Current, max.	18 A	55 A	110 A	55 A	110 A	150 A
Load Resistance	4 Ohm	2 Ohm	1 Ohm	2 Ohm	1 Ohm	0.7 Ohm
Input Voltage	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V
Distortion	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %
Signal to Noise Ratio	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB
Field Supply	yes	yes	yes	yes	yes	yes
Voltage, max.	100 V	100 / 180 V	180 V	280 V	280 V	280 V
Current, max.	6 A	6 A	6 A	6 A	6 A	6 A
Weight	70 kg	100 kg	110 kg	110 kg	200 kg	300 kg
Size (B x H x T) mm	600 x 1600 x 800	600 x 1600 x 800	600 x 1600 x 800	600 x 1600 x 800	600 x 1600 x 800	600 x 1600 x 800
Interlocks	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage

Amplifier	A 53312	A 53318	A 53330	A 54324	A 54336	A 54342
KVA Ratings	12 kVA	18 kVA	30 kVA	24 kVA	36 kVA	42 kVA
Frequenzy Range	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz	DC - 4 kHz
Voltage, max.	110 V	110 V	110 V	110 V	110 V	110 V
Current, max.	110 A	165 A	275 A	220 A	330 A	385 A
Load Resistance	1 Ohm	0.7 Ohm	0.5 Ohm	0.5 Ohm	0.3 Ohm	0.3 Ohm
Input Voltage	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V	1/2/5/10 V
Distortion	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %
Signal to Noise Ratio	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB	> 70 dB
Field Supply	yes	yes	yes	yes	yes	yes
Voltage, max.	140 V	140 V	140 V	100 V	100 V	100 V
Current, max.	8 A	8 A	8 A	90 A	90 A	90 A
Weight	200 kg	300 kg	350 kg	350 kg	350 kg	450 kg
Size (B x H x T) mm	600 x 1600 x 800	600 x 1600 x 800	600 x 2100 x 800	600 x 2100 x 800	600 x 2100 x 800	600 x 2100 x 800
Interlocks	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage	Overload Temperature Clipping Output stage

TIRA Опции

- Столы скольжения
- Верхние удлинители
- Размагничивающие устройства
- Климатические камеры
  - Камеры
  - Программное обеспечение управления
  - Тепловая защита и Верхние удлинители
  - Колеса и шины
- Глушители и Акустические Ограждения

Компактные столы скольжения



	Moving plate working area (mm)	Bearings	Limit (mm)	Slip plate weight (kg)	Slip plate thickness (mm)	Max. testing objekt weight (kg)	Dimension L*W*H (mm)	Max. pitch moment (Nm)	Max. roll moment (Nm)	Max. yaw moment (Nm)
TGT MI 12	305*305	-	62	8.5	40	100	**	550	550	250
TGT MI 18	458*458	-	62	18	40	300	**	1600	1600	250
TGT MI 20	508*508	-	62	21.5	40	400	**	2400	2400	250
TGT MI 24	610*610	-	62	30	40	550	**	3880	3880	250
TGT MI 30	762*762	-	62	57	50	1000	**	7600	7600	250
TGT MI 36	915*915	-	62	80.5	50	1750	**	12670	12670	250
TGT MI 39	991*991	-	62	94	50	2200	**	16700	16700	250
TGT MI 48	1200*1200	-	62	99	50	2400	**	19500	19500	250
TGT MI 60	1500*1500	-	62	227	50	3500	**	25600	25600	250
TGT MI 70	1800*1800	-	62	302	50	4000	**	30000	30000	250
TGT MIH 24	610*610	2	62	49	50	1100	**	26500	25000	22300
TGT MIH 30	762*762	2	62	68.5	50	2000	**	32200	34000	24700
TGT MIH 36	915*915	2	62	92	50	3500	**	47900	45700	34700
TGT MIH 39	991*991	2	62	106	50	4400	**	66500	59800	44700
TGT MIH 48	1200*1200	3	62	115.2	50	6000	**	91400	82200	56000
TGT MIH 60	1500*1500	3	62	249	50	8000	**	167000	143000	99600

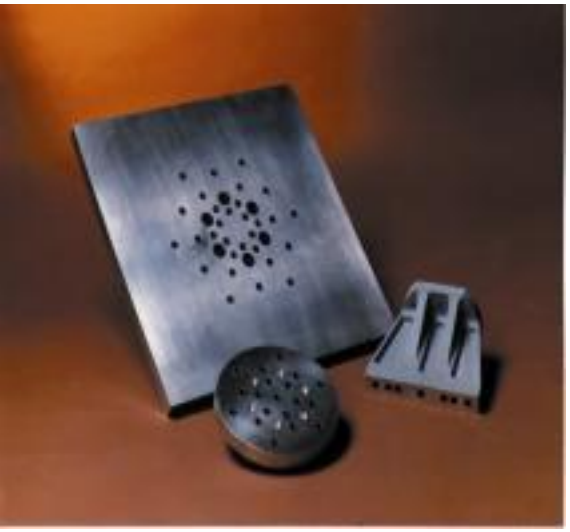
Монолитная база столов скольжения

	Moving plate working area (mm)	Limit (mm)	Slip plate weight (kg)	Slip plate thickness (mm)	Max. testing objekt weight (kg)	Dimension approx. L*W*H (mm)	Max. pitch moment (Nm)	Max. roll moment (Nm)	Max. yaw moment (Nm)
TGT MO 12 S	305*305	62	8.5	40	100	1100*500*500	550	550	250
TGT MO 12 M	305*305	62	8.5	40	100	1300*800*700	550	550	250
TGT MO 18 S	458*458	62	18	40	300	1300*700*500	1600	1600	250
TGT MO 18 M	458*458	62	18	40	300	1300*780*700	1600	1600	250
TGT MO 18 L	458*458	62	18	40	300	1300*800*1000	1600	1600	250
TGT MO 20 S	508*508	62	21.5	40	400	1300*800*500	2400	2400	250
TGT MO 20 M	508*508	62	21.5	40	400	1400*900*700	2400	2400	250
TGT MO 20 L	508*508	62	21.5	40	400	1590*900*1000	2400	2400	250
TGT MO 20 XL	508*508	62	21.5	40	400	1590*950*1200	2400	2400	250
TGT MO 24 S	610*610	62	30	40	550	1400*900*500	3880	3880	250
TGT MO 24 M	610*610	62	30	40	550	1500*900*700	3880	3880	250
TGT MO 24 L	610*610	62	30	40	550	1700*800*1000	3880	3880	250
TGT MO 24 XL	610*610	62	30	40	550	1700*900*1000	3880	3880	250
TGT MO 30 M	762*762	62	57	50	1000	1600*1000*1000	7600	7600	250
TGT MO 30 L	762*762	62	57	50	1000	1900*1000*1000	7600	7600	250
TGT MO 30 XL	762*762	62	57	50	1000	2000*1400*1200	7600	7600	250
TGT MO 36 L	915*915	62	80.5	50	1750	2000*1200*1000	12670	12670	250
TGT MO 36 XL	915*915	62	80.5	50	1750	2200*1400*1200	12670	12670	250
TGT MO 39 L	991*991	62	94	50	2200	2100*1300*1000	16700	16700	250
TGT MO 39 XL	991*991	62	94	50	2200	2300*1400*1260	16700	16700	250
TGT MO 48 L	1200*1200	62	99	50	2400	2150*1350*1000	19500	19500	250
TGT MO 48 XL	1200*1200	62	99	50	2400	2350*1400*1200	19500	19500	250
TGT MO 60 L	1500*1500	62	227	50	3500	2700*1800*1000	25600	25600	250
TGT MO 60 XL	1500*1500	62	227	50	3500	2900*1800*1200	25600	25600	250
TGT MO 70 L	1800*1800	62	302	50	4000	3000*2100*1000	30000	30000	250
TGT MO 70 XL	1800*1800	62	302	50	4000	3100*2100*1200	30000	30000	250

Линейка опор столов скольжения

	Moving plate working area (mm)	Number of bearings	Limit (mm)	Slip plate weight (kg)	Slip plate thickness (mm)	Max. testing objekt weight (kg)	Dimension approx. L*W*H (mm)	Max. pitch moment (Nm)	Max. roll moment (Nm)	Max. yaw moment (Nm)
TGT MOH 24 S	610*610	2	62	30	40	550	1400*900*500	26500	25000	22300
TGT MOH 24 M	610*610	2	62	30	40	550	1500*900* 700	26500	25000	22300
TGT MOH 24 L	610*610	2	62	30	40	550	1700*800*1000	26500	25000	22300
TGT MOH 24 XL	610*610	2	62	30	40	550	1700*900*1000	26500	25000	22300
TGT MOH 30 M	762*762	2	62	57	50	1000	1600*1000*1000	32200	34000	24700
TGT MOH 30 L	762*762	2	62	57	50	1000	1900*1000*1000	32200	34000	24700
TGT MOH 30 XL	762*762	2	62	57	50	1000	2000*1400*1200	32200	34000	24700
TGT MOH 36 L	915*915	2	62	80.5	50	1750	2000*1200*1000	47900	45700	34700
TGT MOH 36 XL	915*915	2	62	80.5	50	1750	2200*1400*1200	47900	45700	34700
TGT MOH 39 L	991*991	2	62	94	50	2200	2100*1300*1000	66500	59800	44700
TGT MOH 39 XL	991*991	2	62	94	50	2200	2300*1400*1260	66500	59800	44700
TGT MOH 48 L	1200*1200	3	62	115.2	50	6000	2150*1350*1000	91400	82200	56000
TGT MOH 48 XL	1200*1200	3	62	115.2	50	6000	2350*1400*1200	91400	82200	56000
TGT MOH 60 L	1500*1500	3	62	249	50	8000	2700*1800*1000	167000	143000	99600
TGT MOH 60 XL	1500*1500	3	62	249	50	8000	2900*1800*1200	167000	143000	99600

Расширительные головки



ROUND VERSION without vibrodamp				
Size	Typ	Armature	Height	Weight
mm		mm/ø	mm	kg
250	THR 25-120	120	80	3.7
	THR 25-180	180	80	4.3
300	THR 30-180	180	80	5.6
	THR 30-220	220	80	26.7
400	THR 40-180	180	120	10.0
	THR 40-220	220	120	12.0
500	THR 50-180	180	150	20.0
	THR 50-220	220	150	24.0
	THR 50-330	340	150	28.0
600	THR 60-180	180	210	29.0
	THR 60-220	220	210	40.0
	THR 60-330	340	210	48.0
800	THR 80-330	340	230	69.0
	THR 80-440	440	245	82.0
	THR 80-640	640	180	67.0
1000	THR 100-440	440	305	143.0
	THR 100-640	640	235	126.0

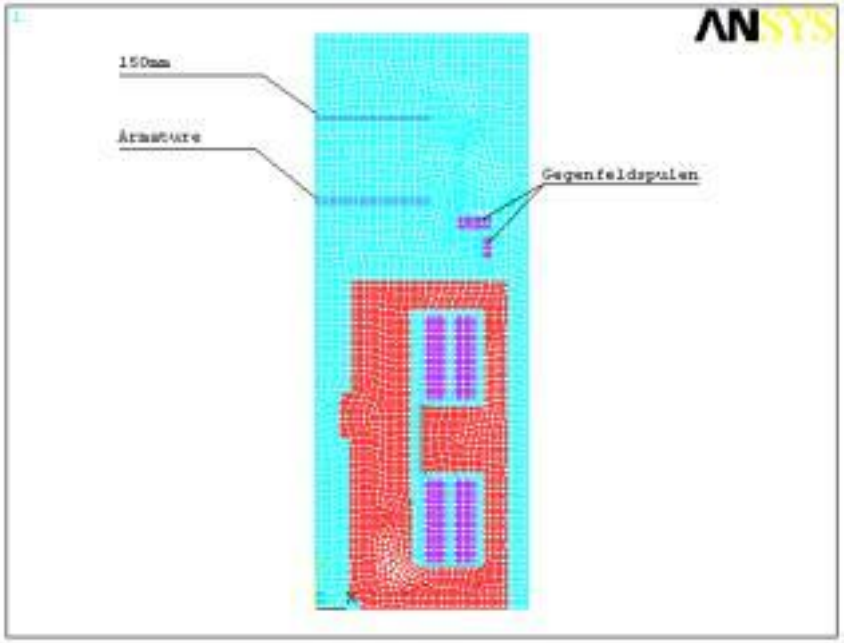
ROUND VERSION with vibrodamp				
Size	Typ	Armature	Height	Weight
mm		mm/ø	mm	kg
400	THR 40-180V	180	120	15.0*
	THR 40-220V	220	120	18.0*
500	THR 50-180V	180	150	30.0*
	THR 50-220V	220	150	36.0*
	THR 50-330V	340	150	42.0*
600	THR 60-180V	180	210	43.5*
	THR 60-220V	220	210	60.0*
	THR 60-330V	340	210	72.0*
800	THR 80-330V	340	230	103.5*
	THR 80-440V	440	245	123.0*
	THR 80-640V	640	180	100.5*
1000	THR 100-440V	440	305	214.5*
	THR 100-640V	640	235	189.0*

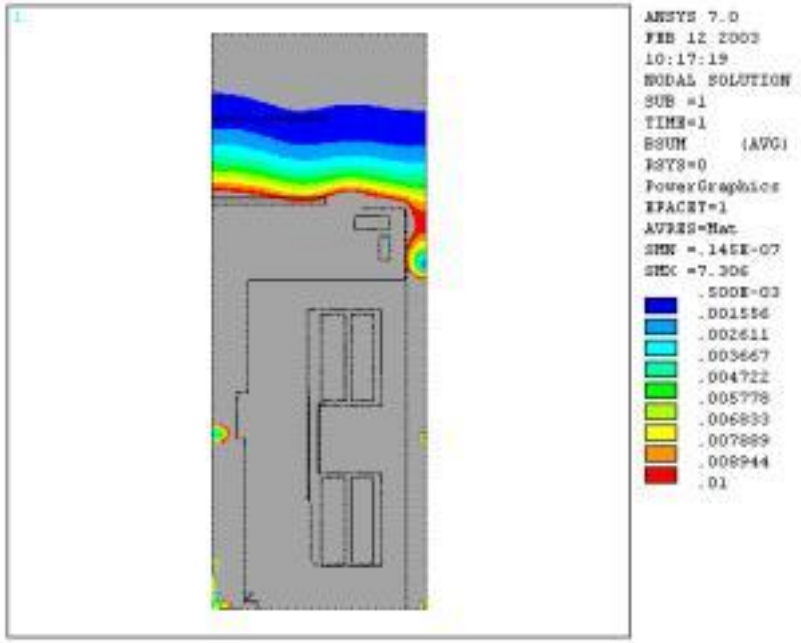
SQUARE VERSION without vibrodamp				
Size	Typ	Armature	Height	Weight
mm		mm/ø	mm	kg
250 x 250	THS 25-120	120	100	6.9
300 x 300	THS 30-120	120	100	7.1
	THS 30-180	180	100	7.55
400 x 400	THS 40-180	180	100	16.0
	THS 40-220	220	100	13.5
500 x 500	THS 50-180	180	120	23.5
	THS 50-220	220	150	28.0
	THS 50-330	340	180	34.0
600 x 600	THS 60-180	180	180	36.0
	THS 60-220	220	180	39.0
	THS 60-330	340	180	54.0
	THS 60-440	440	180	54.0
800 x 800	THS 80-440	440	180	95.0
	THS 80-640	640	120	80.0
1000 x 1000	THS 100-440	440	200	134.0
	THS 100-640	640	140	153.0

SQUARE VERSION with vibrodamp				
Size	Typ	Armature	Height	Weight
mm		mm/ø	mm	kg
300 x 300	THS 30-120V	120	100	17.0*
	THS 30-180V	180	100	24.0*
400 x 400	THS 40-180V	180	100	20.3*
	THS 40-220V	220	120	35.3*
500 x 500	THS 50-180V	180	150	42.0*
	THS 50-220V	220	180	51.0*
	THS 50-330V	340	180	54.0*
600 x 600	THS 60-180V	180	180	58.5*
	THS 60-220V	220	180	81.0*
	THS 60-330V	340	180	81.0*
	THS 60-440V	440	180	81.0*
800 x 800	THS 80-440V	440	180	142.5*
	THS 80-640V	640	120	120.0*
1000x1000	THS 100-440	440	200	201.0*
	THS 100-640	640	140	229.5*

Размагничивающие устройства

- Уменьшают магнитное поле до 0.5 mT на 150 мм выше стола

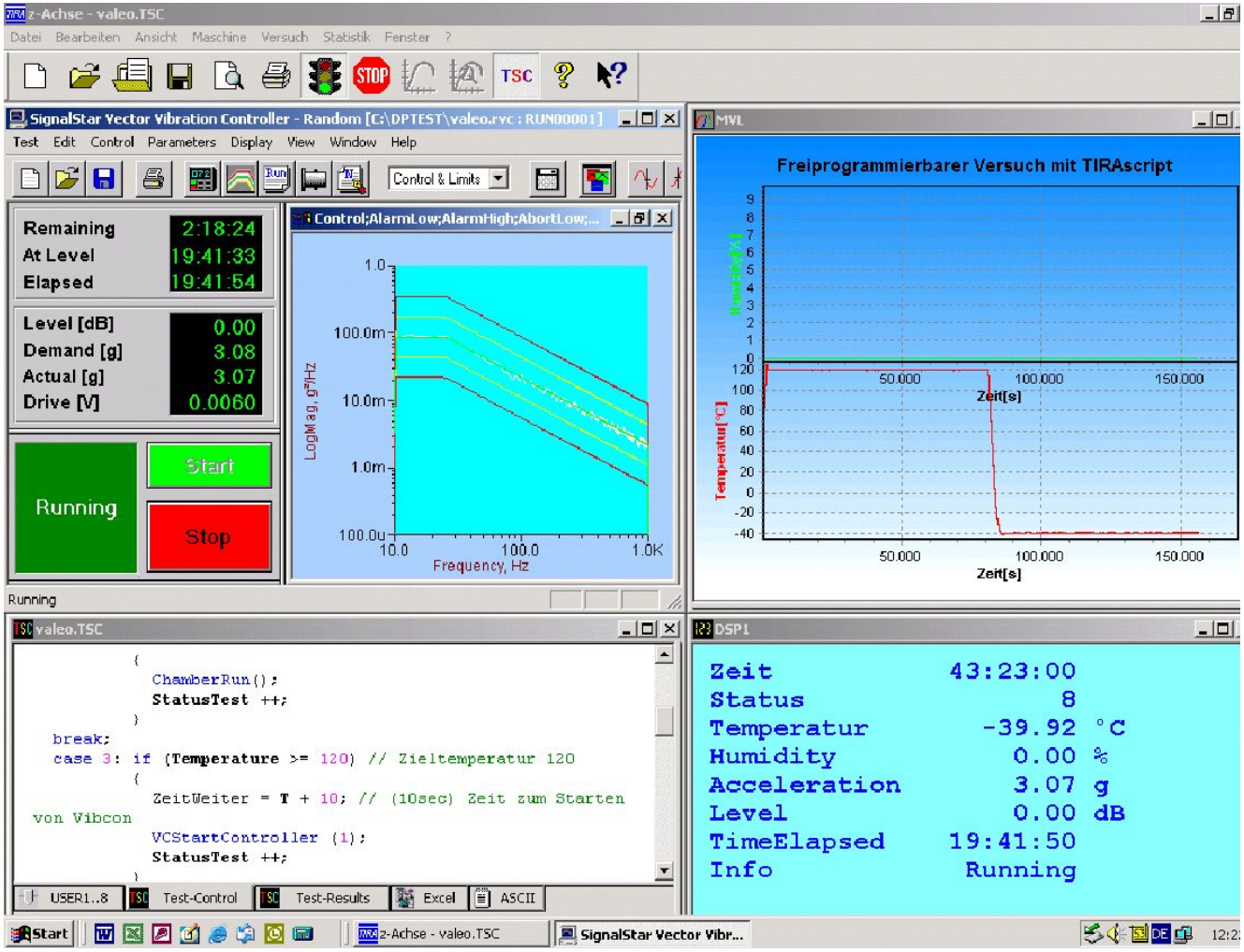




Климатические камеры

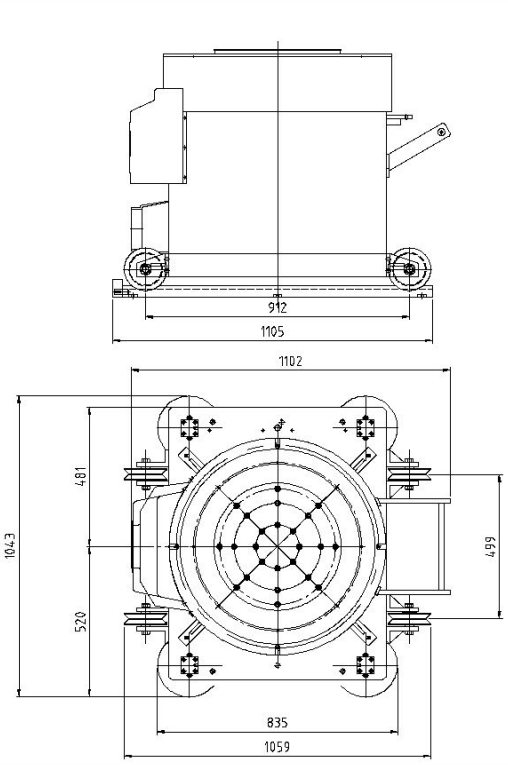
- Полный диапазон климатических и температурных испытательных камер
  - Настольные
  - Лабораторные
  - Ударные камеры
  - Вибрационные

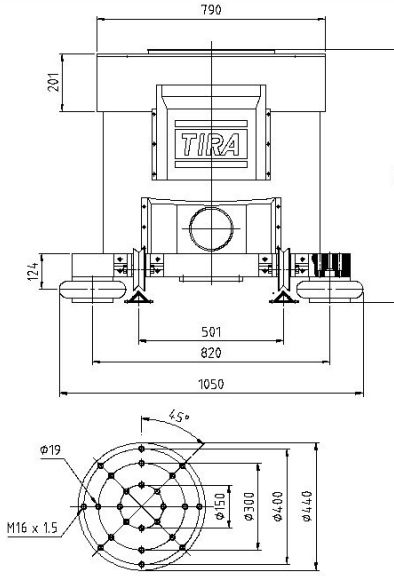
TEC - TIRA Управление климатикой



Колеса и шины

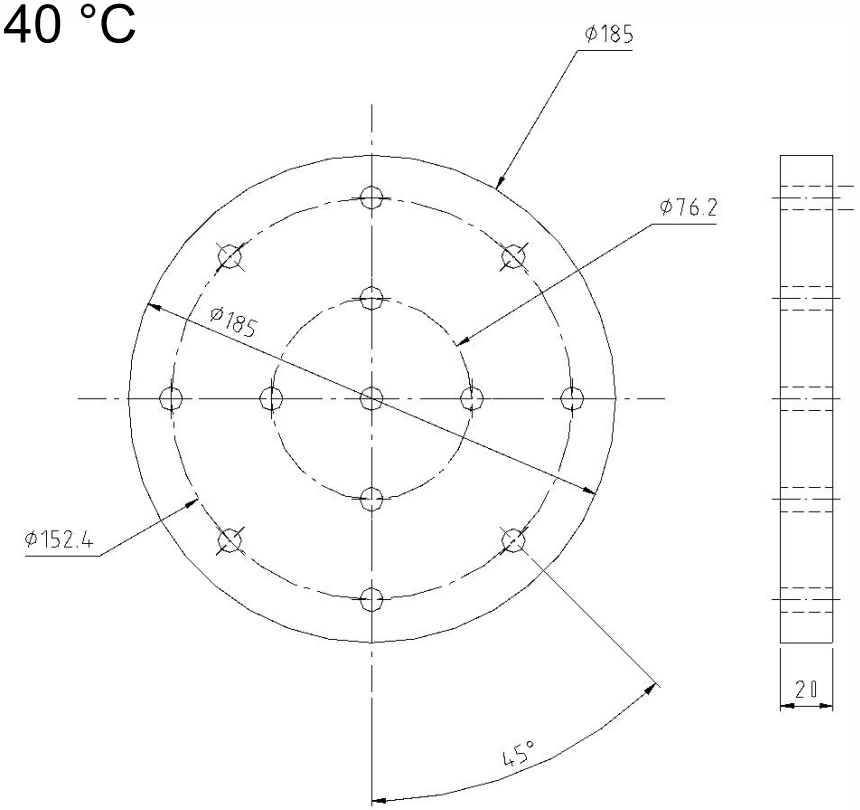
- Позволяют легко перемещать вибратор под климатической камерой





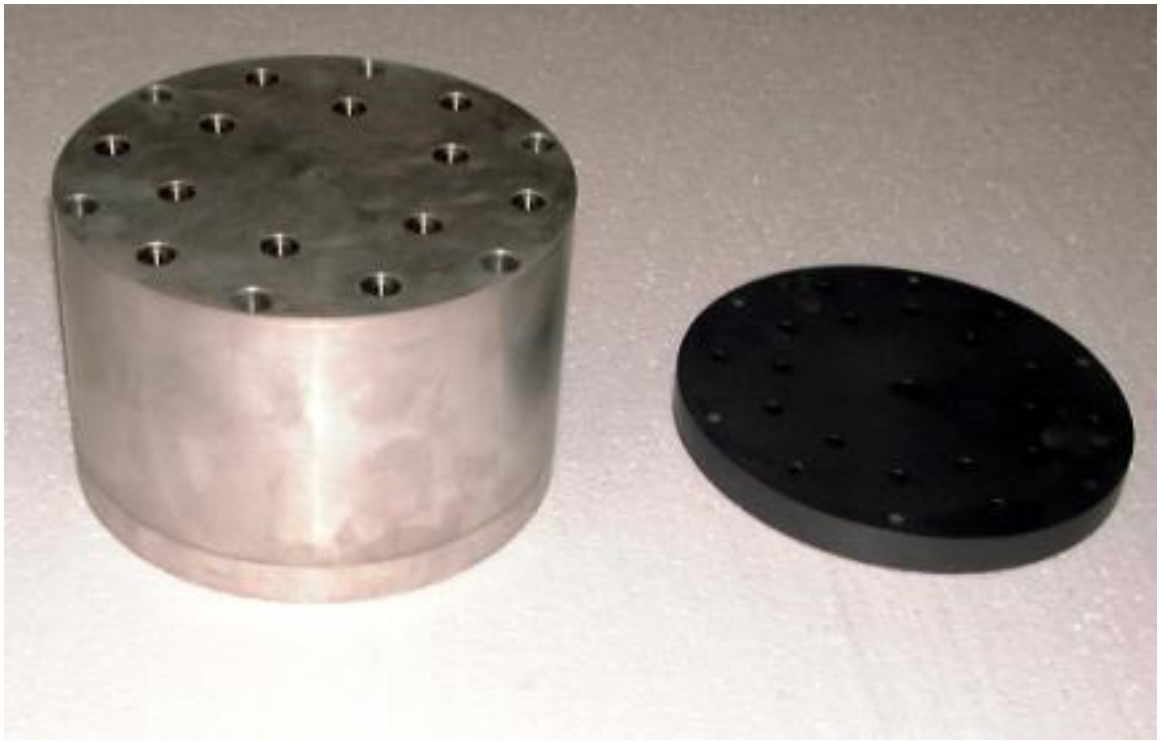
Тепловая защита

- Тепловая защита для использования с климатическими испытательными камерами -40 до +140 °C



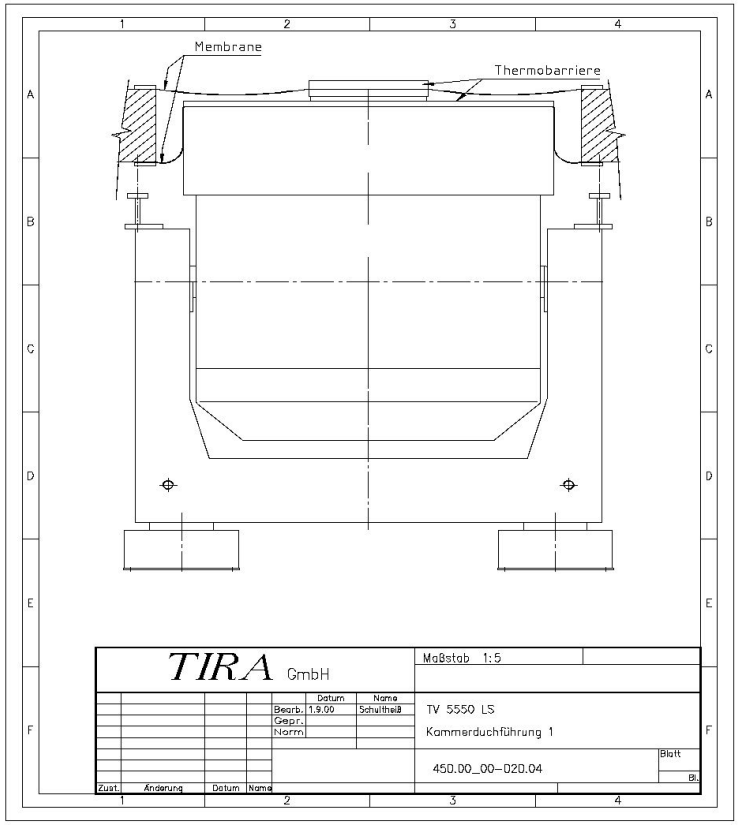
Верхний удлинитель

- Для использования с климатическими испытательными камерами; Размер Ø340 x 140 mm



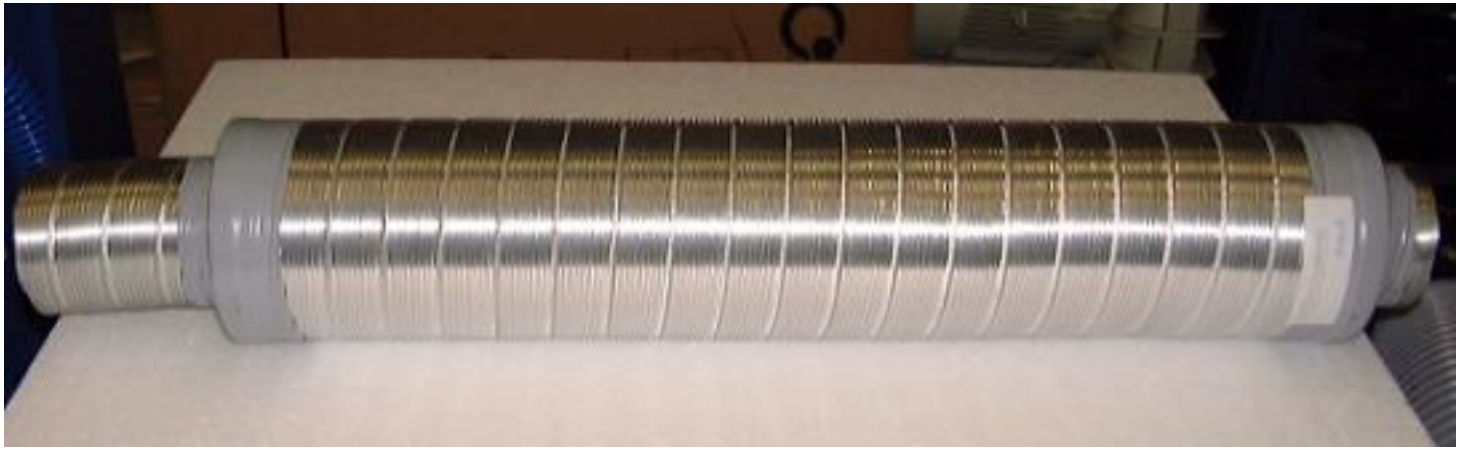
Комплект опоры камеры

- Комплект опоры камеры (верхняя крышка с тепловой защитой для использования с климатической испытательной камерой -40 до +140 °C) required TBR 34



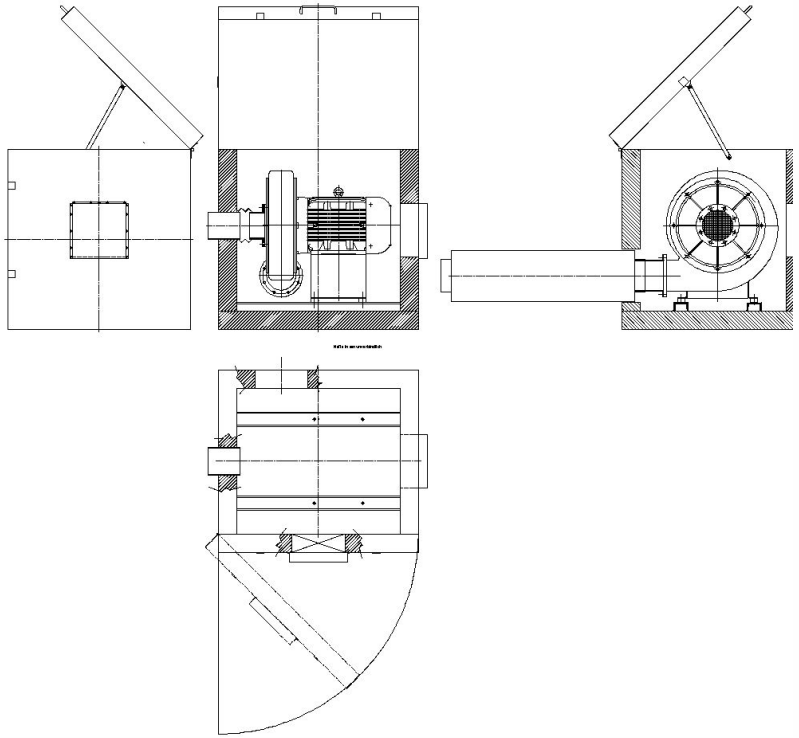
Глушитель для вентилятора

- Уменьшает шум системы



Акустический кожух

- Уменьшает шум системы



История TIRA

1783 Основано фарфоровое производство, которое становится в

1900 одним из самых больших в стране.

1946 Возобновлено с производством медицинского оборудования

1950/60 Разработка технологий испытаний; перемещение исследований испытаний материалов из Лейпцига и вибрационных испытаний из Berlin-Teltow.

1970/80 Ведущий производитель в области испытаний материалов, балансировке и вибрационных испытаний, испытаний во всех странах восточного блока, особенно в космической, авиационной и оборонной промышленности.

1991 Приватизирована; разработка нового ряда оборудования для использования в гражданской области

1998 Перемещение производства в Schalkau

1999 Приобретение WPM Leipzig

2000 Соглашение о сотрудничестве с B&K

2001 Расширение рынка климатических камер

TIRA Рекомендуют

Automotive Industries:

- Adam Opel
- AUDI AG
- BMW
- Daimler Chrysler AG
- General Motors
- FIAT
- MAN
- Porsche
- Rolls Royce
- Toyota Motorsport
- Volkswagen

Automotive systems:

- Alfmeier
- BASF
- Bos
- Bosch
- Brose
- Continental Hannover
- Continental Frankfurt
- Continental TEMIC
- Festo
- Hella
- Mahle Filtertechnik
- Novotechnik
- Philips
- Rücker
- Siemens AG
- TRW
- TÜV
- Valeo
- Wabco
- Webasto

TIRA Рекомендуют

Aerospace Industries:

- Daimler Chrysler Aerospace
- IABG
- Krauss-Maffei
- MTU
- Schrack Aerospace

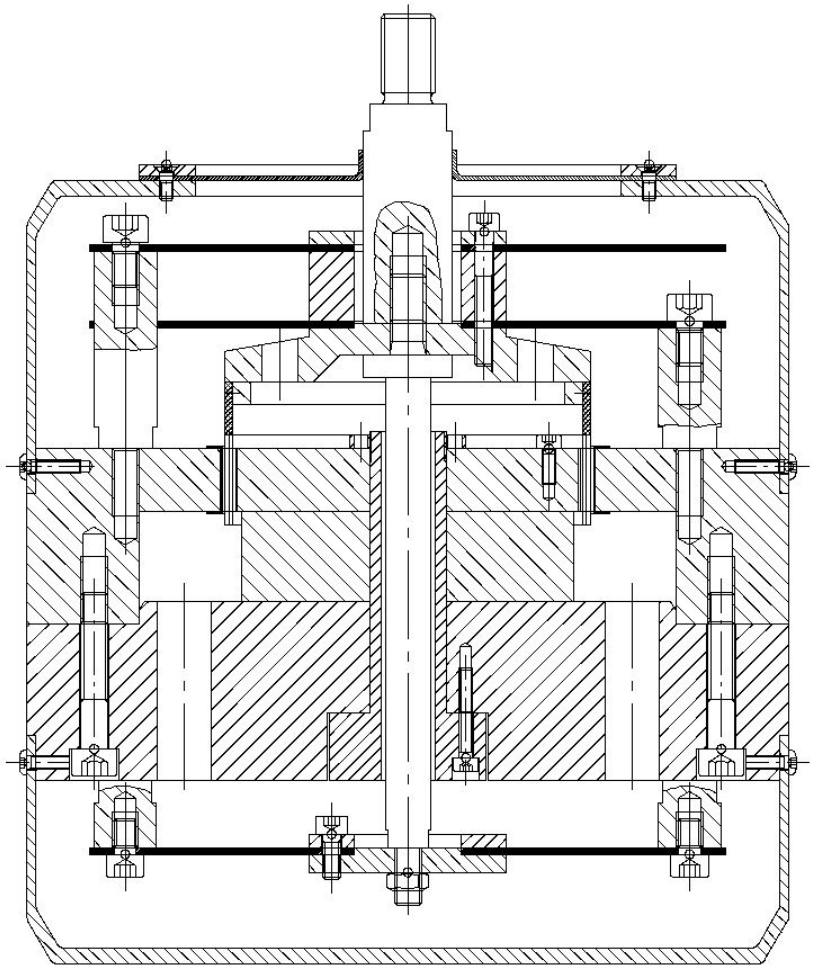
Electronics Industrie:

- Carl Zeiss
- Eaton Controls
- Eupec
- Festo
- Holthausen Elektronik
- Johnson Controls GmbH
- Klöckner Möller
- Multitest
- Rosenberger
- Siedle
- Siemens AG
- Schmersal
- Wachendorff Gmbh

Universities:

- TU Bergakademie Freiberg
- TU Chemnitz-Zwickau
- TU Hamburg-Harburg
- TU München
- Uni Amsterdam
- Uni Bern
- Uni Erlangen
- Uni Magdeburg
- Uni Merseburg
- Uni Stuttgart
- FH Anhalt
- FH Coburg
- FH Würzburg
- FH Jena
- FH Schweinfurt
- FH Ulm

Вибратор с постоянным магнитом



Подвеска вибратора с постоянным магнитом

Схема электродинамического возбудителя