

MÜNCHNER KAMMERSPIELE

Tech Rider

KAMMER 1

(Schauspielhaus)

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Stage

Auditorium

balcony	dress circle	168 seats
	boxes	40 seats
	<u>proscenium boxes</u>	= lighting boxes
		max. 208 seats
stalls	rows A, B, C	45 seats
	(A, B are on the orchestra platform)	
	rows 1 – 18	437 seats
	<u>boxes</u>	= scenic entrance
		max. 482 seats
		total 690 seats

All seats in the auditorium are removable one by one. The seats for the fire protection staff are located in the orchestra boxes and under the tower stage left.

Measurements

orchestrplatform	ca. 9,50m x 2,25m, range: -3,14m to ± 0
stage height	0,83m above auditorium level
golden portal (decoration portal)	ca. 9m x 5,50m
Technical portal (towers and bridge)	ca. 11m x 5,70m
proscenium	ca. 9m x 1,50m, with removable floor elements
stage size	ca. 12m x 13,50m
understage	- 3,14m
backstage	ca. 12m x 6,50m x 6,50m
sliding stage gates	3,20m x 6,40m
goods lift (inside measurements)	1,95m x 6,60m x 3,99m max. load: 10 000 kg
loading lift table (inner courtyard)	2m x 4m, lift 1,34m max. load: 2 000 kg

Fly system & understage

General information

- fly bars: 5 steel ropes each, precision steel pipe 50mm/5mm
- fly bars can be disconnected between their ropes
- computer controlled fly system by TTS (Theatertechnische Systeme Syke), requirement class 5
- main controlpanel on the left tower, two mobile panels available
- Grid grate: mesh 65/65 mm
Grid area, max. load: 500 kp/m²

Fly system

Proscenium

- | | | |
|-------|---|---|
| - V 1 | 5 spot lines between golden portal and iron curtain (firecurtain) | range: + 0,30m to 5,80m
max. load: 50 kp/spot line
speed: 0 – 0,3 m/s |
| - V 2 | | 4-lines
range: + 0,30m to 6,07m
max. load: 250 kp
speed: 0 – 0,3m/s |
| - V 3 | | 3-lines
range: + 0,30m to 6,23m
max. load: 250 kp
speed: 0 – 0,3m/s |
| - V 4 | fly bar for lighting | 4-lines
special profile with dimmer outlets
range: + 0,30m to 6,17m,
length 7,81 m
max. load: 250 kp
speed: 0 – 0,3m/s |

Curtain area

- | | | |
|------------------|--|---|
| - "Hauptvorhang" | | counterweighted fly system
length: 11,12m
range: + 1,50m to 13,70m
max.load: 300 kp |
| - "Schleier" | | automated fly system
length: 11,12m
range: +1,50m to 13,70m
max. load: 500 kp
speed: 0 – 1,0m/s |

- "Portalzug"	counterweighted fly system length: 11,12m range: +1,50m to 13,70m max. load: 300 kp
- "Schall"	automated fly system length of fly bar: 11,12m range: +1,50m to 13,70m max. load: 300 kp speed: 0 – 1,0m/s
Bridge	
- lighting bridge	range: +1,5m to 5,70m max. load: 2 000 kp, 125 kg/m ² speed: 0 – 0,05m/s
- bridge hoist	4 spot lines range: +0,30m to 6,00m max. load: 300 kp speed: 0 – 0,3m/s
Stage	
- fly bars 1 + 18	automated fly system length: 12,92m range: +0,30m to 16,80m max. load: 400 kp speed: 0 – 0,6m/s
- fly bars 2 - 17	automated fly system, changeable to counterweighed system length: 12,92m range: +0,30 to 16,80m max. load: 500 kp at 0 – 1m/s 200 kp at 0 – 2m/s
- fly bars 19 + 38	automated fly system length: 11,02m range: +0,30m to 16,80m max. load: 400 kp speed. 0 – 0,6m/s
- fly bars 20 - 28, 32 - 34, 36, 37	automated fly system length: 11,02 m range: +0,30m to 16,80 m max. load: 500 kp at 0 –1m/s 200 kp at 0 –2m/s
- fly bars 29 - 31, fly facility for lighting	automated fly system 3 point truss 500 length: 11m range without deflector and luminaires +0,30m to 16,80m

	max. load: 1 000 kp speed: 0 - 0,3m/s
- fly bar 35, fly facility for loudspeakers	automated fly system 2 point truss 500 length: 2,40m each, located at pipe end range without speaker: +0,30m to 16,80m max. load: 500 kp speed: 0 - 0,3m/s
- Spot line system, PZ 1.1 - 1.5, ... 6.1 - 6.5	automated fly system 6 horizontal tracks with 5 movable spot lines per track range: +0,30m to 16,85m max. load: 200 kp speed: 0 – 1,0m/s
- Panorama fly facility, P 1 - 4	2 spot lines left and right in front of the galleries range: +0,30m to 17,00m max. load: 200 kp speed: 0 – 1m/s
Backstage	
- fly facilities K 1 - K 3	automated fly bars length: 10,35m range: +0,30m to 6,20m max. load: 500 kp speed: 0 – 0,3m/s
Technical grid above auditorium	
- 6 movable chain hoists (Chainmaster)	max. load: 250 kp speed: 10m/min (2 at a time) 5m/min (4 at a time)
- "Kuppelzug", fly facility for lighting outlets	2 chain hoists, special provile with dimmer length: 5m range without luminaires: + 0,30m to 8,71m max. load: 500 kp speed: 5m/min
Technical grid above stage	
- 16 movable chain hoists (Loadstar)	range: +0,10m to 17,00m max. load: 500 kp speed: 8m/min

Understage machinery

Proscenium

- orchestraplatform with 4 Spiralifts

- black stage floor

removable floor elements
0,5m x 1m x 4,5cm
max.load: 500 kg/m²
max. point load: 350 kg
range - 3,14m to ± 0
speed 0 - 0,1m/s (noisy!)

Stage

- black stage floor

removable floor elements
0,5m x 2,2m x 8,5cm
max. load: 500 kg/m²
max. point load: 350 kg

- deconstructable steel construction

- 2 vertical elevators

platform: 1m x 1m
static load: 500 kg,
dynamic load: 150 kg
range: - 2,50m to ± 0
lift: 2,30m
speed: 0 - 0,50m/s

- hydraulic system

distributor with 6 connections
max. pressure : 130 bar
pump 1: 80 l/min
pump 2: 20 l/min

- hydraulic cylinder, electronically regulated

static load: 2 000 kg,
dynamic load: 1 000 kg
lift: 2,50m
speed: 0 - 0,10m/s

- connections for compressed air 0 – 10 bar

- water connections available in unterstage

Lighting

Lighting desk

2 ETC EOS TI 4k, protocols: sACN, net3, artnet
 3 Dimmerrooms with a total of:
 293 dimmers 5kW, 283 dimmers 2,5kW and 96 non dimmable lines for HMI
 Type Transtechnik FDX2000 with realtime feedback for dimmers and HMI circuits
 24 dimmers 2,5kW AlexMX for turntable stage
 96 2kW sinewave dimmers by Swisson
 DMX and Ethernet connection
 DMX-network configuration and DMX extension via LSS Mastergate/LSS Masterport
 DMX-feed in via ETC Net3 4port Gateway
 10 DMX Universes via Transtechnik E-Gate Max and LSS Masterport
 Worklights control via Profibus and LSS Digiplus Touchpanel

Luminaires K1 (see basic lighting plot K1):

Tungsten and HMI fixtures at various wattages
 Scrollers and shutters by Licht Technik Mag Max / Dark Vader / Mag Vader
 Motorized units:
 2 Arri 5kW tungsten fresnel in LT-motor yoke with LT-scroller- in the lighting fly bar 30
 3 Arri 4kW HMI fresnel in LT-Motorbügel with LT-scroller- in lighting fly bar 30
 4 ETC Revolution- in the auditorium
 2 LED SolaFrameTheatre (Highend) – in the „dome lighting fly bar“.
 5 LED SolaFrameTheatre (Highend)- in the lighting fly bar „V4“
 4 LED SolaFrameTheatre (Highend) – in the auditorium left and right
 2 Amptown HP Squarcle - in the auditorium left and right
 2 MTS Teleskope TLM70 with 2 Spotlight ARC Svobodas - in the auditorium
 2 Spotlight ARC Svoboda - in the lighting fly bar 30
 3 ETC S4 Daylight Series2 - in the auditorium
 4 Source Four CE LED Lustre+ LED profile spotlights - in the auditorium left and right

Special luminaires and controls:

3 Varilite VL4000
 7 Varilite VL1100AS
 15 LDDE NanoPix 3240-I-RGB WW LED
 8 Martin RushPar2 Zoom LED

Sound

Front - PA

KS 6x T4 FOH
 1 x T4 Centercluster
 2x T4-W incl. Amp/Controller
 2 x CPA 1 with Firmod, Delaycluster for the balcony
 2 x CPA 1 Front Fill for proscenium boxes
 6 x CPA 04 coaxial active small fill speaker for positions under the balcony and orchestra boxes

Surround system

KS 5x T3
 14x CL 208 incl. Amp/Controller, different shapes
 4 special edition speakers for up to 4 channel Surround sound in the balcony boxes
 4x CPA 1202 selfpowered variable line-speaker 12x2"
 1 x CPA 2 grid above auditorium
 2 separate subwoofer in the back of the auditorium

Fixed speakers on stage

KS 2x CPA 2
 2x CL 106
 2x CPA 08
 4x T10 long throw system 60/40° (2x upstage L/R movable, 2x technical grid above stage)
 4x T10-W subwoofer, (2x upstage L/R movable, 2x technical grid above stage)

Mobile speakers

KS CPA 1 active system, monitor version available
 CPA 2 active system, monitor version available
 3x CPA 11 active
 6x CPA W active
 6x CPA Sub active
 15x CL 106 with controlleramp CA4-U, max.12 separate channels
 6x CPA 04, active coax speakers
 8x C04, coax speaker, 100V
 Meyer 8 x MM4 incl. amp/controller (2 channels)

Mixing console

Salzbrenner C.A.S.-Mix 64 digital DSP supported 64x64 matrix mixing console, connected to Nexus via Madi in/out
 The console is positioned on the balcony in the center of the auditorium.
 Small mobile WLAN Remote with laptop, for controlling every parameter of the main console
 Redundant Audio DSP

Audio Server

Raid 5, 180 GB, Mac OSX, connected to all computers of all stages and rehearsal stages.

Effects (FX)

Lexicon PCM 91
 Lexicon PCM 300

tc M2000
tc M3000

Playout

3x CD-player Denon DN-961 FA
THS (Software-playout; 4x Stereo + 2x 8-track)
Ableton Live 6, 7, 8 and 9
If requested:
MD
DAT

Mikrophones

AKG SE 300 B with: AKG CK 91
AKG CK 93
AKG CK 98

1x AKG C 414 B-TL II
1x AKG C 562 BL PZM
3x Crown PCC 170
6x Crown PCC 160
2x Neumann U 87
1x Neumann U 89
2x Neumann U 47
1x Neumann KM 84
8x Shure SM 58
2x Shure SM 58 beta
1x Shure 55 SH
2x Shure PG 56
6x Shure Beta 91
2 x Shure Beta 98
1x Sennheiser MD 441
2x Sennheiser E 604
2x Sennheiser MKH 416
various DI- boxes

Wireless / Mikroports

16 channel Sennheiser 5000 series receivers with:
16 Belt Packs SK 50 UHF
with DPA 4061 BM/FM capsules
2 Sennheiser SKM 5000 UHF handheld transmitters, 6 SKM 5200 with Neumann capsule
2 channel InEar – Monitoring Sennheiser EW 300 G2
2 channel InEar – Monitoring Sennheiser EW 2000

Cabling

Nexus optic fibres with 2 mobile Base-devices, various connections on stage
Microphone, line, intercom, 100 Volt, speakon, optical fibre and power outlets on various
patchpanels on stage.
(seperate powerline for audio, isolated transformator)

Video

Projection

- 1x Panasonic PT-RZ21, 21.000 7000 ANSI Lumens, Silent Case, fixed installation in auditorium
- 1x Panasonic PT-RZ970, 10.000 ANSI Lumens
- 2x Panasonic PT-RZ670, 6.000 ANSI Lumens
- 2x Panasonic PT-DZ6710, 6.000 ANSI Lumens

Various lenses and rigging frames for all projectors.

- AV Stumpfl Monoblox 5,0x3,0 - Opera white, black frame
- AV Stumpfl Monoblox 2,8x1,7m - Opera white or Optitrans
- AV Stumpfl Monoblox 3,8x2,2m - Opera white or Optitrans
- AV Stumpfl mobile screen 6x4/5x3,8/4x3m - Opera white, Optitrans (only 4x3m)

Connections

- BNC Patchbays (CVBS, SDI/HD-SDI possible depending on distance)
- HDMI/DVI over Lightware HDBaseT-Extender
- HDMI/DVI over Lightware LWL-Extender.
- Lightware 32x32 Video matrix with HDMI/DVI In and HDMI/DVI, fiber & HDBaseT Out
- AJA 16x16 Video matrix with 3G-SDI

Playout

No video-FOH inside the auditorium, control Room located stage left, at the height of the 2nd gallery with monitor image of stage manager's CCTV camera and audio. Setting up a FOH inside the auditorium ("Loge 5") is possible but needs to be planned in advance.

- Pandoras Box Quad Server Pro R3, V6, SSD, 8x 3G-SDI Inputs
- PC with Pandoras Box Manager, Widget Designer PRO* (w/ current Rev. each)
- MacMini (2014), Intel i7, OSX, 16GB RAM, Intel Iris 1536MB
- Qlab 4, Modul8, Isadora 2, MadMapper

Mixer/Scaler

- Analog Way Pulse LE PLS 200
- TVOne C2-2855

various analog matrices/distributors
digital and analog Converters
consumer/professional BD-, DVD- and VHS-Players

*Your equipment can be controlled by this setup in most cases.

Surtitles

LED-Panel in bar V4, 3m x 0,5m, Pixel Pitch 3.9 mm, Playout via Powerpoint from „Loge 5“

Stage management system

Intercom

Motorola GP 340

2-way wired intercom RTS

mobile and fixed intercom panels with 13 possible destinations

Cuelights

Cuelightmatrix with 32 channels, programmable for performances

Fixed Cuelights for light, sound, machinery and video

Stage managing console

Measurements: 1,39m x 1,67m x 0,81m (h x w x d)

House announcement system

Separate announcements for dressing rooms and technical staff

All house speakers can give out the live onstage sound.

Video

Colour-, B/W-zoom, as well as infrared CCTV - cameras available on all stages.

Various 14"-B/W and colour monitors available.