

CATALOGO PRODOTTI 2027

GFP **RACK
POOL**



SUB-RACK 19"
ARMADI RACK 19"
DISSIPATORI E CLAMPS
TORNERIA
OFFICINA MECCANICA
GALVANICA
SERIGRAFIA

TRADITION AND INNOVATION, TODAY AND TOMORROW

GFP

**RACK
POOL**



MADE IN ITALY





● *Componenti meccanici per elettronica*

Siamo produttori specializzati nella meccanica per elettronica.

Forniamo rack 19", rack da tavolo, lavorazione di pannelli in genere, soprattutto su specifica del cliente (customer), custodie 19", cestelli, cassette schermate e/o aerate, il tutto secondo le norme europee. Realizziamo inoltre lavorazioni meccaniche di precisione su macchine a controllo numerico (cnc) per produrre contenitori su misura per le applicazioni elettroniche. Produciamo moltissimi accessori in materiale plastico per le applicazioni elettroniche come guide schede, impugnature, estrattori schede, blocca schede, rondelle, piedini fissi - alzabili e moltissime minuterie per il fissaggio pannelli e schede elettroniche. L'azienda possiede un parco macchine all'avanguardia composto da Piegatrici, Impianto Taglio Laser, Punzonatrici, Fresatrici CNC e un Impianto Galvanico per i trattamenti di anodizzazione e surtec 650 per servire vari settori industriali. Forniamo un servizio di serigrafia.

Siamo un polo di riferimento in continua evoluzione



Taglio Laser



Presse

Fresatrici a CNC



Impianto Galvanico



Punzonatrici



- *Divisione armadi per elettronica*

GFP RACK POOL ha lanciato la produzione di armadi per elettronica e di quadri elettrici sia secondo standard richiesti dal mercato, sia a disegno del cliente.

Numerosi sono gli accessori che accompagnano l'armadio: Ruote, Piedini, Guide, Staffe interne, Infiniti accessori per servire il cliente con un pacchetto prodotti sempre più completo e all'avanguardia.

Siamo esperti nell'integrazione elettronica e nel cablaggio di sistemi elettronici, riusciamo a fornire il sistema finito partendo dal progetto meccanico fino al sistema integrato funzionante. Un ciclo dalla A alla Z.

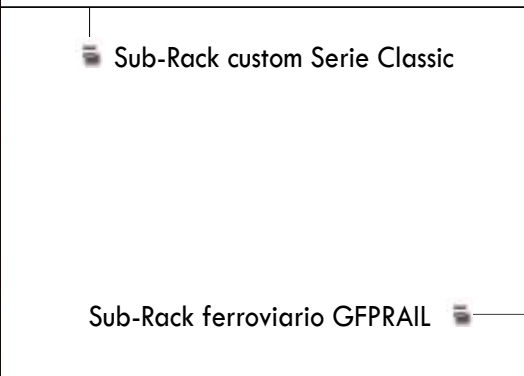


Sub-Rack custom Serie Classic



Sub-Rack Serie Bench

Sub-rack altezza e profondità Custom



Sub-Rack ferroviario GFPRAIL



Sub-Rack Serie Classic



Sub Rack EMC/RFI

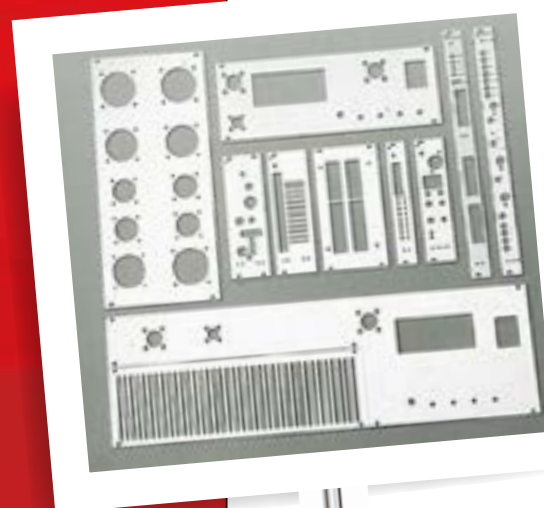


Sub-Rack Serie Light



Componenti EMC/RFI

Lavorazione pannelli frontali



GFP RACK POOL

Cassetto 3U/6U



Armadio da muro modello SAT



Lavorazioni su fresatrici CNC



Armadio da muro modello LIB

Contenitori in metallo

Clamps



Carpenteria leggera



Armadio modello "POOL"

Lavorazioni meccaniche

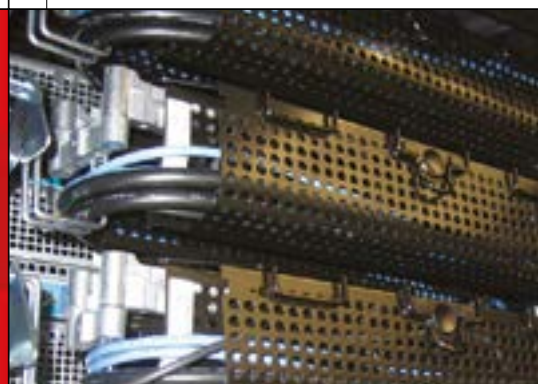


Lavorazioni su dissipatori in alluminio



Dissipatori in alluminio

Integrazione e Cablaggio



Torneria

Lavorazioni meccaniche

Armadio modello "MAR"



Armadio modello "SUN"



Subrack Antincendio



Serigrafia





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TRADITION AND INNOVATION, TODAY AND TOMORROW







SUB-RACK 19"

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Sub-Rack 19"

• *Introduzione*

E' il nome dei componenti meccanici per l'elettronica.

La gamma di prodotti che presentiamo garantisce completezza di servizio per le aziende che si servono di Sub-Racks 19" Eurocard.

La nostra produzione è appieno conforme alle direttive europee DIN 41494 - IEC 297 - SC48D - EN50155.

I Sub-Racks GFP RACK POOL sono studiati per completare i vostri progetti in un mercato sensibile alla funzionalità e all'immagine.

Costruiti in alluminio lega P-Al Si 1 Mg. Mn - UNI 3571 anodizzato naturale, nero o passivato hanno le protezioni in acciaio zincato e plastificato in vari colori.

Le barre trasversali permettono il posizionamento delle guida scheda al passo di 1TE = mm 5,08; le altezze dei nostri Sub-Racks coprono tutte le necessità da 1U = mm 43,6 a 9U = mm 399,2.

Svariate sono le misure delle profondità.

Le larghezze normalizzate sono cinque:

84TE - (82TE Sub-Rack da tavolo) - 60TE - 42TE - 28TE.

La gamma completa degli accessori GFP RACK POOL, le lavorazioni custom, le serigrafie personalizzate, la consulenza per nuove progettazioni e un adeguato magazzino, hanno ottenuto il consenso tecnico e commerciale di aziende leader in applicazioni industriali, telefonia, telecomunicazioni, strumentazioni.



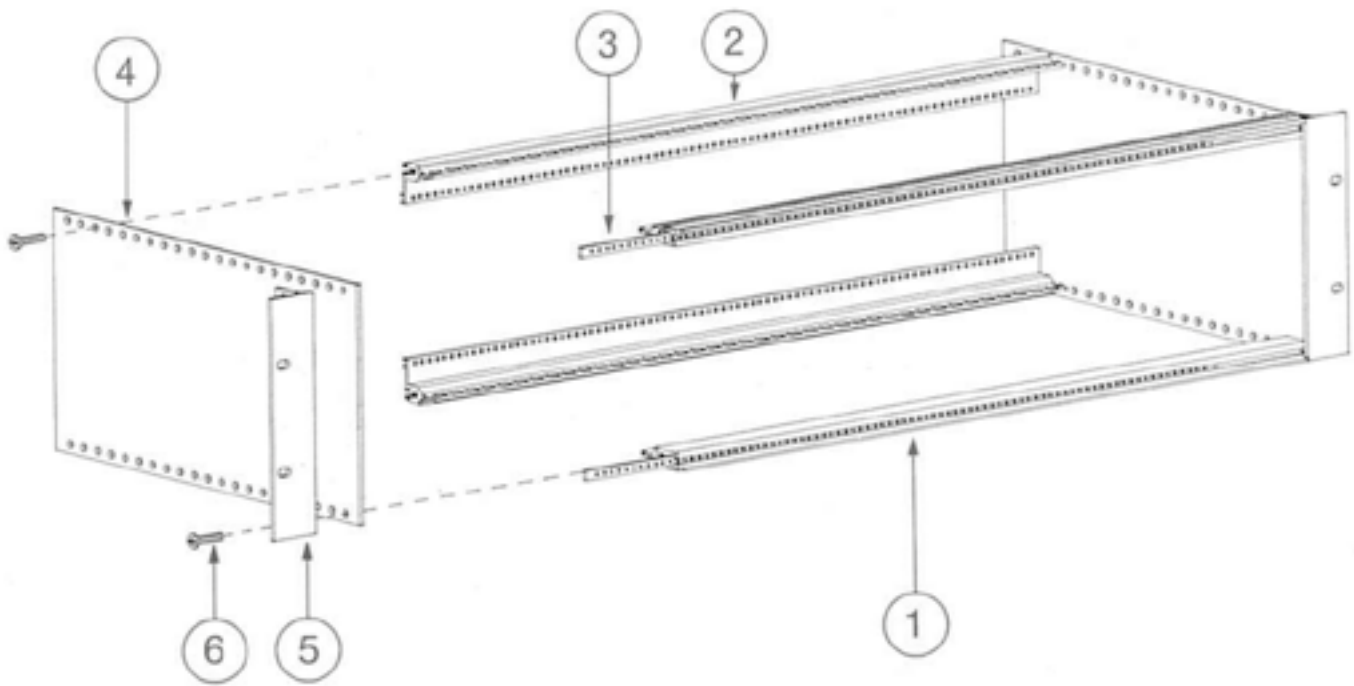
- Struttura robusta, con profili estrusi in alluminio e laterali anch'essi in alluminio.
 - Finitura passivata consente la continuità elettrica tra i componenti.
- Facoltativo profilo posteriore con connettore DIN 41612, DIN 41617, Mother Board e Mother Board con Isolante .
- Coperture con ventilazione standard EMI/RFI, facoltative per tutte le profondità.

Sub-Rack 19" Standard

• Formato 3 Unità

Utilizzato per schede 100 x 160 mm e 100 x 220 mm è realizzato in alluminio anodizzato naturale, nero o passivato in quattro versioni di larghezza standard:
84TE - 60TE - 42TE - 28TE

La profondità complessiva è pari a:
- 225 mm nella versione per schede 160
- 273 mm nella versione per schede 220



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Barra anteriore 84TE	010S084	2
2	Barra posteriore 84TE	020S084 (MotherBoard) - 030S084 (DIN 41612)	2
3	Barretta M2,5 84TE	125S084C	2
4	Fiancata 3U	160R300 (Eurocard160) - 220R300 (Eurocard220)	2
5	Supporto 3U	250S300 (senza fori maniglia) - 252S300 (con fori maniglia)	2
6	Viti M4x14	216T000	8

Accessori:

Descrizione	Pag.
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TE	Codice Mother Board	Codice DIN 41612	Descrizione	Compatibilità
84	016A384	010A384	Sub-Rack 3U 84TE	Eurocard 160
60	016A360	010A360	Sub-Rack 3U 60TE	Eurocard 160
42	016A342	010A342	Sub-Rack 3U 42TE	Eurocard 160
28	016A328	010A328	Sub-Rack 3U 28TE	Eurocard 160
84	056A384	050A384	Sub-Rack 3U 84TE	Eurocard 220
60	056A360	050A360	Sub-Rack 3U 60TE	Eurocard 220
42	056A342	050A342	Sub-Rack 3U 42TE	Eurocard 220
28	056A328	050A328	Sub-Rack 3U 28TE	Eurocard 220

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

Sub-Rack 19" Standard

• Formato 6 Unità

Utilizzato per schede 100 x 160 mm e 100 x 220 mm è realizzato in alluminio anodizzato naturale, nero o passivato in quattro versioni di larghezza:

84TE - 60TE - 42TE - 28TE

La profondità complessiva è pari a:

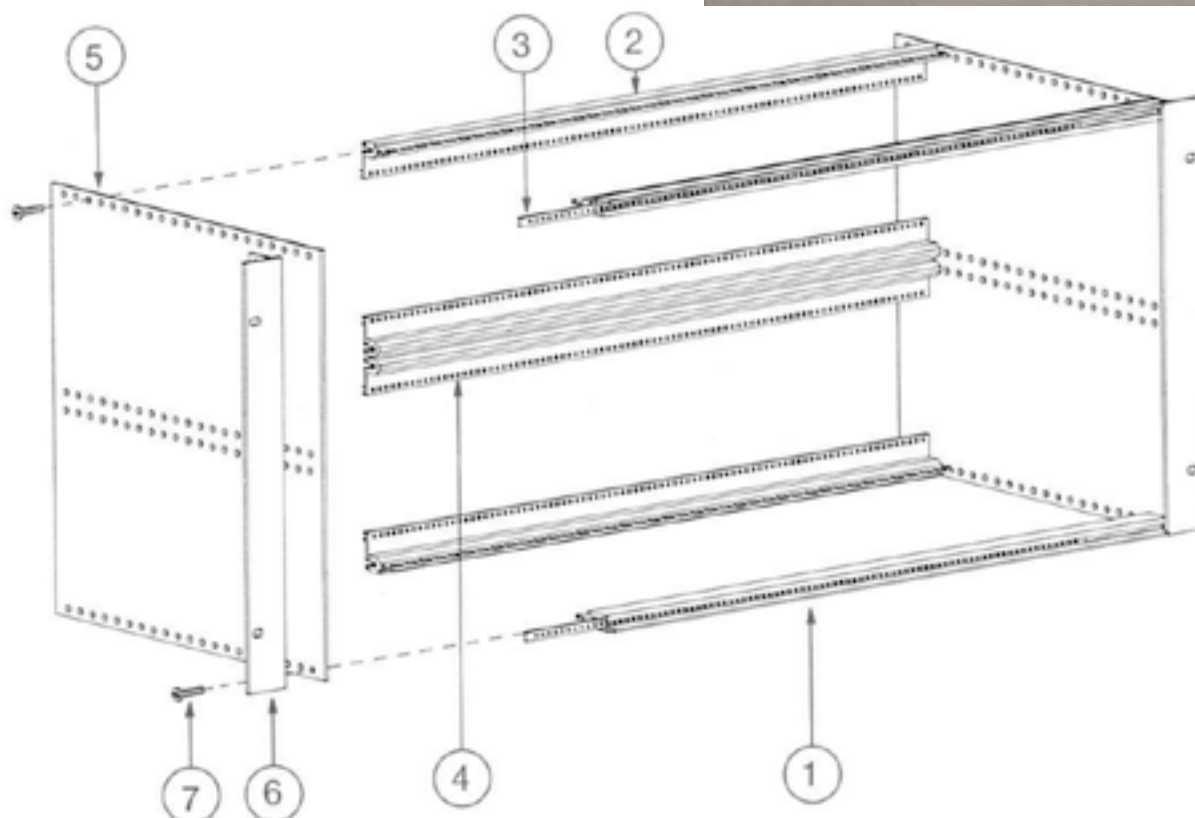
- 225 mm nella versione per schede 160

- 273 mm nella versione per schede 220



RACK
POOL

GFP
Classic



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Barra anteriore 84TE	010S084	2
2	Barra posteriore 84TE	020S084 (MotherBoard) - 030S084 (DIN 41612)	2
3	Barretta M2,5 84TE	125S084C	2
4	Barra posteriore centrale	086S084 (MotherBoard) - 080S084 (DIN 41612)	1
5	Fiancata 6U	160R600 (Eurocard160) - 220R600 (Eurocard220)	2
6	Supporto 6U	250S600 (senza fori maniglia) - 252S600 (con fori maniglia)	2
7	Viti M4x14	216T000	12

Accessori:

Descrizione	Pag.
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TE	Codice Mother Board	Codice DIN 41612	Descrizione	Compatibilità
84	016A684	010A684	Sub-Rack 6U 84TE	Eurocard 160
60	016A660	010A660	Sub-Rack 6U 60TE	Eurocard 160
42	016A642	010A642	Sub-Rack 6U 42TE	Eurocard 160
28	016A628	010A628	Sub-Rack 6U 28TE	Eurocard 160
84	056A684	050A684	Sub-Rack 6U 84TE	Eurocard 220
60	056A660	050A660	Sub-Rack 6U 60TE	Eurocard 220
42	056A642	050A642	Sub-Rack 6U 42TE	Eurocard 220
28	056A628	050A628	Sub-Rack 6U 28TE	Eurocard 220

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

SUB-RACK 19"

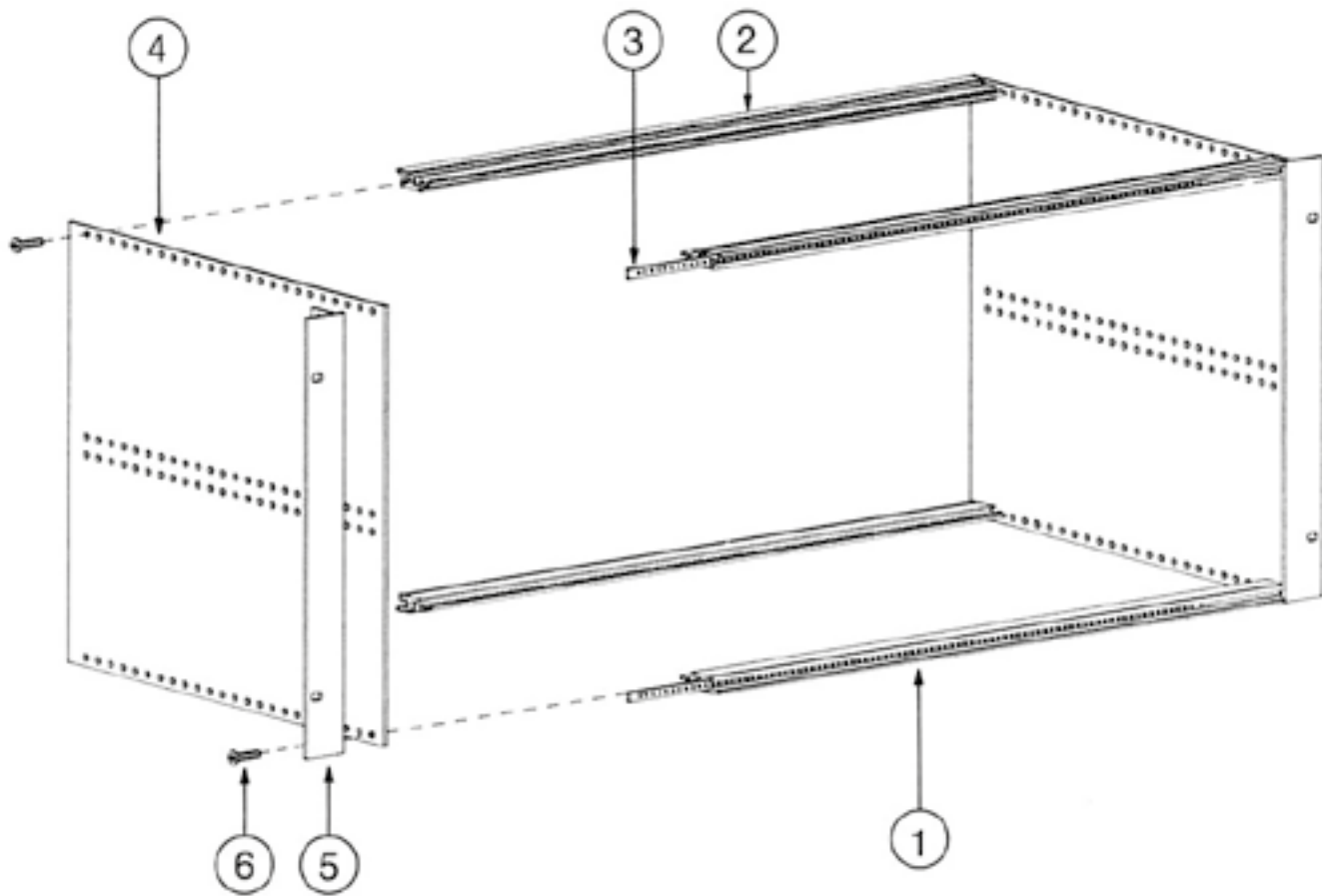
Sub-Rack 19" Special

• Sub-Rack 19" Special

Realizzato in alluminio anodizzato naturale, nero o passivato il Sub-Rack special è una soluzione semplice che, attraverso l'utilizzo di particolari come barre trasversali DIN 41612 - DIN 41617 - Mother Board e Mother Board + isolante, permette di realizzare svariate soluzioni atte all'ottimale utilizzo dello spazio interno del Sub-Rack stesso. Questa struttura può essere completamente chiusa con protezioni di lamiera plastificata color marrone.

Le soluzioni di larghezza sono le stesse del Sub-Rack euro-card: 84TE - 60TE - 42TE - 28TE.

Le altezze e le profondità delle fiancate da 2U - 3U - 4U - 5U - 6U e 9U sono rilevabili dal disegno a pag.15



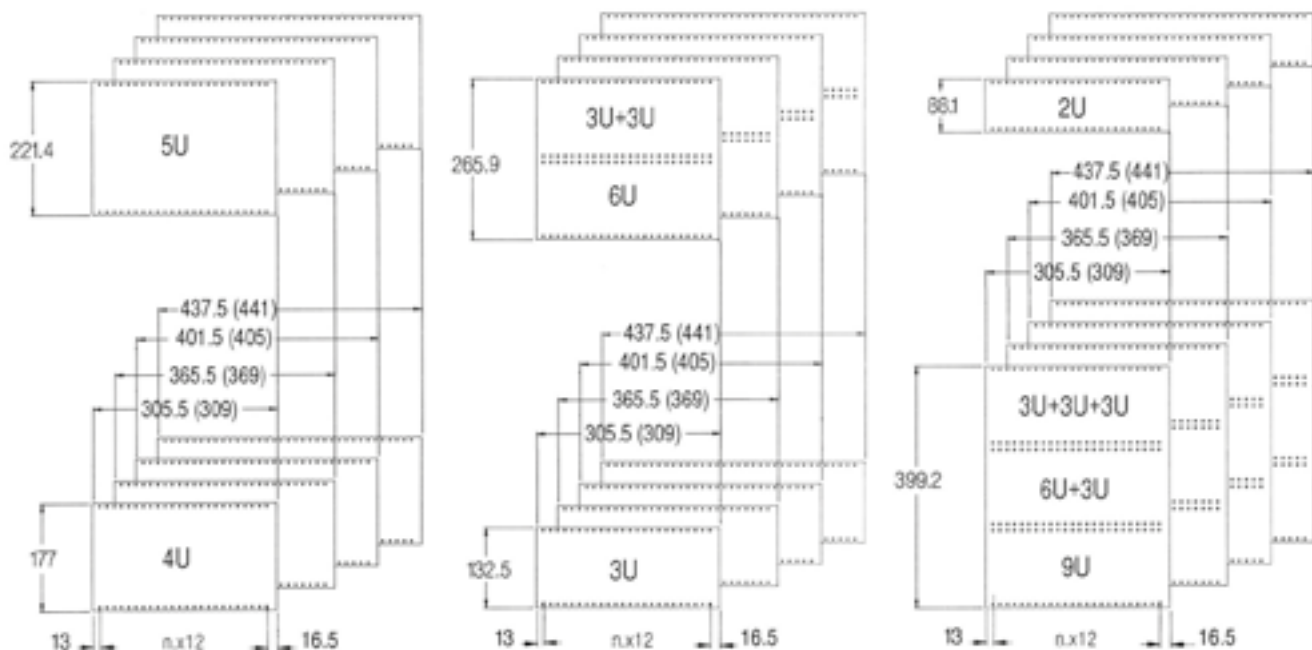
Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Barra anteriore 84TE	010S084	2
2	Barra posteriore 84TE	020S084	2
3	Barretta M2,5 84TE	125S084C	2
4	Fiancata 6Ux309	309R600	2
5	Supporto 6U	250S600 (senza fori maniglia) - 252S600 (con fori maniglia)	2
6	Viti M4x14	216T000	8

Accessori:

Descrizione	Pag.
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Altezze, Profondità:



Larghezze:



TE	2Ux309 mm	3Ux309 mm	4Ux309 mm	5Ux309 mm	6Ux309 mm	9Ux309 mm
84	309A284	309A384	309A484	309A584	309A684	309A984
60	309A260	309A360	309A460	309A560	309A660	309A960
42	309A242	309A342	309A442	309A542	309A642	309A942
28	309A228	309A328	309A428	309A528	309A628	309A928
TE	2Ux369 mm	3Ux369 mm	4Ux369 mm	5Ux369 mm	6Ux369 mm	9Ux369 mm
84	369A284	369A384	369A484	369A584	369A684	369A984
60	369A260	369A360	369A460	369A560	369A660	369A960
42	369A242	369A342	369A442	369A542	369A642	369A942
28	369A228	369A328	369A428	369A528	369A628	369A928
TE	2Ux405 mm	3Ux405 mm	4Ux405 mm	5Ux405 mm	6Ux405 mm	9Ux405 mm
84	405A284	405A384	405A484	405A584	405A684	405A984
60	405A260	405A360	405A460	405A560	405A660	405A960
42	405A242	405A342	405A442	405A542	405A642	405A942
28	405A228	405A328	405A428	405A528	405A628	405A928
TE	2Ux441 mm	3Ux441 mm	4Ux441 mm	5Ux441 mm	6Ux441 mm	9Ux441 mm
84	441A284	441A384	441A484	441A584	441A684	441A984
60	441A260	441A360	441A460	441A560	441A660	441A960
42	441A242	441A342	441A442	441A542	441A642	441A942
28	441A228	441A328	441A428	441A528	441A628	441A928

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

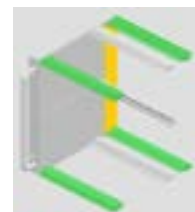
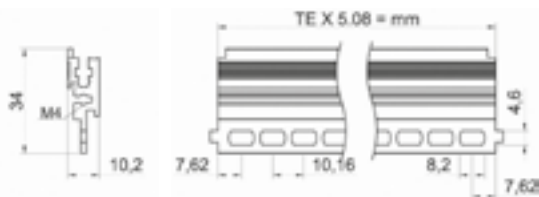
Sub-rack 19" Special: Traverse

(Estruso di alluminio anodizzato naturale, nero o passivato conduttivo lunghezza 432,1 millimetri)

• Traversa Anteriore Spigoli Fresati (84TE)

Cod.

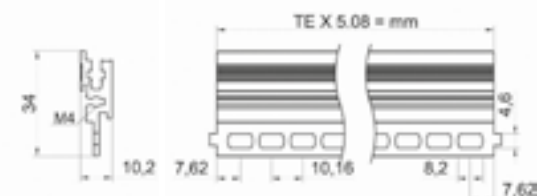
010S084



• Traversa Posteriore (85TE)

Cod.

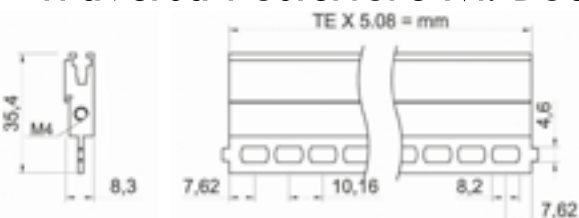
012S084



• Traversa Posteriore M. Board (84TE)

Cod.

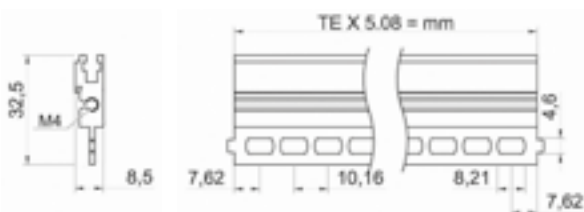
020S084



• Traversa Posteriore M. Board per Isolante (84TE)

Cod.

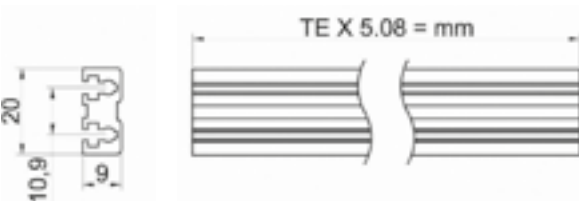
022S084



• Traversa Posteriore Centrale M. Board (84TE)

Cod.

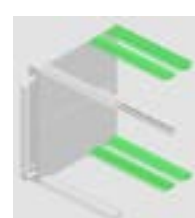
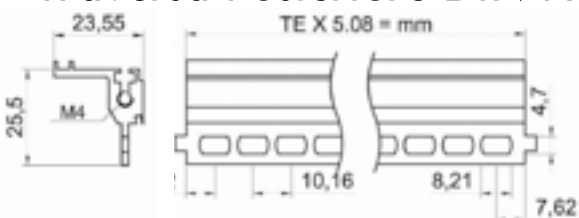
086S084



• Traversa Posteriore DIN41612 (84TE)

Cod.

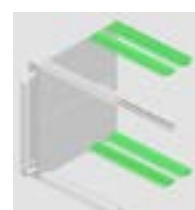
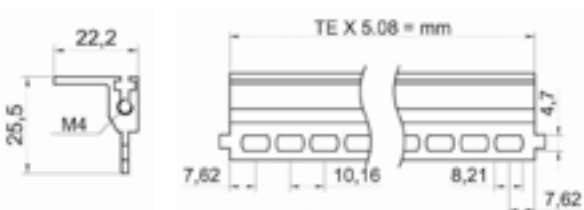
030S084



• Traversa Posteriore DIN41612 Ribassata (84TE)

Cod.

032S084

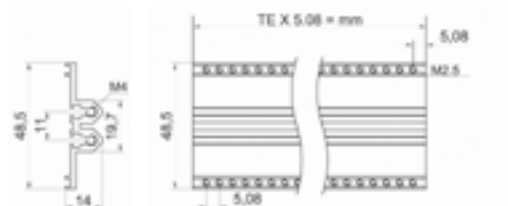


Sub-Rack 19" Special: Traverse

(Estruso di alluminio anodizzato naturale, nero o passivato conduttivo lunghezza 432,1 millimetri)

- **Traversa Posteriore Centrale DIN41612 (84TE)** Cod.

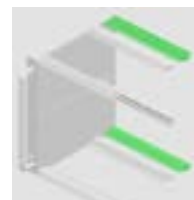
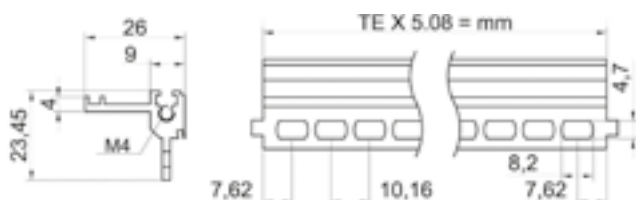
080S084



- **Traversa Posteriore DIN41617 (84TE)** Cod.

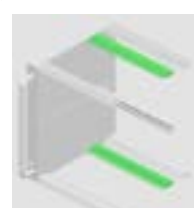
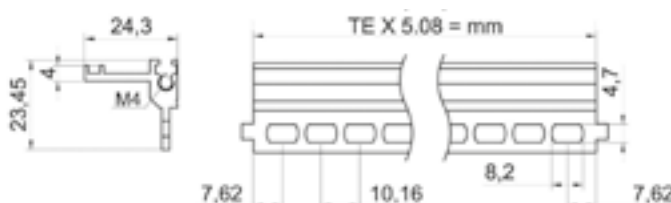
Cod.

040S084



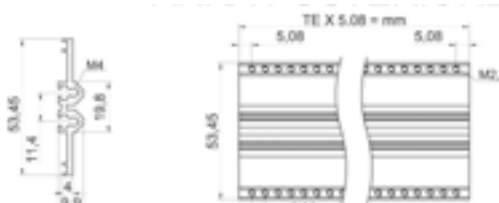
- **Traversa Posteriore DIN41617 Ribassata (84TE)** Cod.

042S084



- **Traversa Posteriore Centrale DIN41617 (84TE)** Cod.

082S084



In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

- **Barretta di Fissaggio**

Barretta di ottone con sezione mm 5x2

Filettata da 2,5MA-3MA.

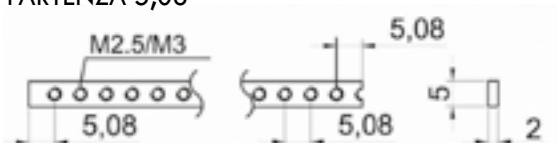
Servono a fissare i frontalini sul rack.

La misura minima è di mm 14,9 = 3TE

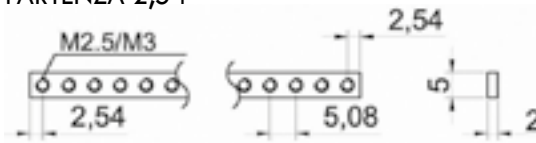
La misura massima è di mm 432 = 85TE



A=PARTENZA 5,08



B=PARTENZA 2,54

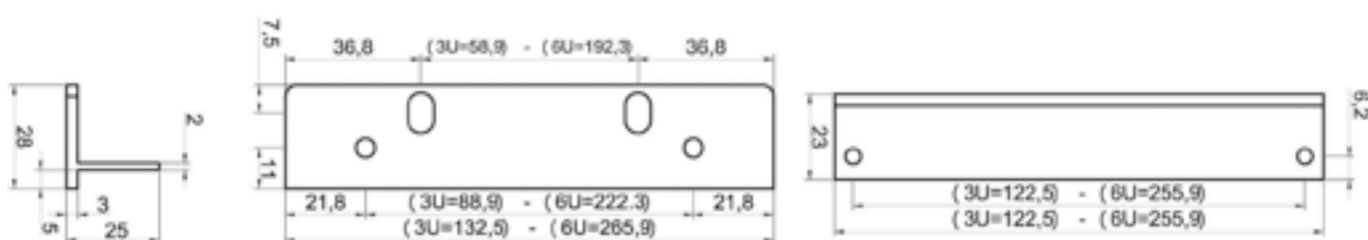


TE	Barretta M2,5 (A)	Barretta M2,5 (B)	Barretta M3 (A)	Barretta M3 (B)
84	125S084	125S084P1	130S084	130S084P1
42	125S042	125S042P1	130S042	130S042P1
21	125S021	125S021P1	130S021	130S021P1
10	125S010	125S010P1	130S010	130S010P1

Sub-Rack 19" Special: Staffe e Coperture

• *Supporto Armadio*

(Estruso di alluminio, anodizzato naturale, nero o passivato conduttivo)



	1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. standard	250S100	250S200	250S300	250S400	250S500	250S600	250S700	250S800	250S900
Cod. con foro maniglia	252S100	252S200	252S300	252S400	252S500	252S600	252S700	252S800	252S900

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

• *Angolare Posteriore*

(Estruso di alluminio, passivato naturale, nero o passivato conduttivo)

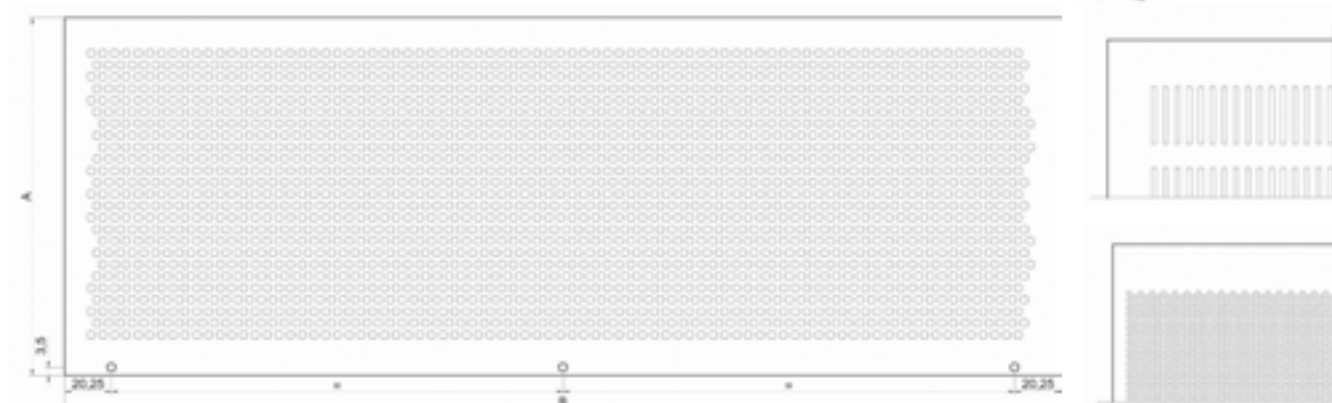


	1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod.	225S100	225S200	225S300	225S400	225S500	225S600	225S700	225S800	225S900

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

● Coperture Sub-Rack Eurocard 160/220

(disponibili in alluminio anodizzato naturale, nero o passivato o acciaio zincato plastificato in differenti colorazioni)



Coperture Cieche

	TE	Scheda Eurocard 160 Barra DIN	Scheda Eurocard 160 Barra Motherboard	Scheda Eurocard 220 Barra DIN	Scheda Eurocard 220 Barra Motherboard
Cod.	84	010H084	010H084-MB	030H084	030H084-MB
Cod.	60	010H060	010H060-MB	030H060	030H060-MB
Cod.	42	010H042	010H042-MB	030H042	030H042-MB
Cod.	28	010H028	010H028-MB	030H028	030H028-MB

Coperture Areate Asola 25x2

	TE	Scheda Eurocard 160 Barra DIN	Scheda Eurocard 160 Barra Motherboard	Scheda Eurocard 220 Barra DIN	Scheda Eurocard 220 Barra Motherboard
Cod.	84	012H084	012H084-MB	032H084	032H084-MB
Cod.	60	012H060	012H060-MB	032H060	032H060-MB
Cod.	42	012H042	012H042-MB	032H042	032H042-MB
Cod.	28	012H028	012H028-MB	032H028	032H028-MB

Coperture Areate Foro Ø3,5

	TE	Scheda Eurocard 160 Barra DIN	Scheda Eurocard 160 Barra Motherboard	Scheda Eurocard 220 Barra DIN	Scheda Eurocard 220 Barra Motherboard
Cod.	84	013H084	013H084-MB	033H084	033H084-MB
Cod.	60	013H060	013H060-MB	033H060	033H060-MB
Cod.	42	013H042	013H042-MB	033H042	033H042-MB
Cod.	28	013H028	013H028-MB	033H028	033H028-MB

Coperture Areate Foro Ø2

	TE	Scheda Eurocard 160 Barra DIN	Scheda Eurocard 160 Barra Motherboard	Scheda Eurocard 220 Barra DIN	Scheda Eurocard 220 Barra Motherboard
Cod.	84	014H084	014H084-MB	034H084	034H084-MB
Cod.	60	014H060	014H060-MB	034H060	034H060-MB
Cod.	42	014H042	014H042-MB	034H042	034H042-MB
Cod.	28	014H028	014H028-MB	034H028	034H028-MB

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

• Coperture Sub-Rack Special

(disponibili in alluminio anodizzato naturale, nero o passivato o acciaio zincato plastificato in differenti colorazioni)

Coperture Cieche

	TE	309 mm	369 mm	405 mm	441 mm
Cod.	84	060H084	070H084	080H084	090H084
Cod.	60	060H060	070H060	080H060	090H060
Cod.	42	060H042	070H042	080H042	090H042
Cod.	28	060H028	070H028	080H028	090H028

Coperture Areate Asola 25x2

	TE	309 mm	369 mm	405 mm	441 mm
Cod.	84	062H084	072H084	082H084	092H084
Cod.	60	062H060	072H060	082H060	092H060
Cod.	42	062H042	072H042	082H042	092H042
Cod.	28	062H028	072H028	082H028	092H028

Coperture Areate Foro Ø3,5

	TE	309 mm	369 mm	405 mm	441 mm
Cod.	84	063H084	073H084	083H084	093H084
Cod.	60	063H060	073H060	083H060	093H060
Cod.	42	063H042	073H042	083H042	093H042
Cod.	28	063H028	073H028	083H028	093H028

Coperture Areate Foro Ø2

	TE	309 mm	369 mm	405 mm	441 mm
Cod.	84	064H084	074H084	084H084	094H084
Cod.	60	064H060	074H060	084H060	094H060
Cod.	42	064H042	074H042	084H042	094H042
Cod.	28	064H028	074H028	084H028	094H028

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

• Piastra Base Sub-Rack Special

(disponibili in alluminio anodizzato naturale)



	TE	309 mm	369 mm	405 mm	441 mm
Cod.	84	309G084	369G084	405G084	441G084
Cod.	60	309G060	369G060	405G060	441G060
Cod.	42	309G042	369G042	405G042	441G042
Cod.	28	309G028	369G028	405G028	441G028

- **Piastra Base Sub-Rack Banco 1U-2U**

(disponibili in alluminio anodizzato naturale)



	TE	273 mm	357 mm	441 mm
Cod.	84	273GA084BG	357GA084BG	441GA084BG
Cod.	60	273GA060BG	357GA060BG	441GA060BG
Cod.	42	273GA042BG	357GA042BG	441GA042BG
Cod.	28	273GA028BG	357GA028BG	441GA028BG

- **Piastra Base Sub-Rack Banco 3U-4U-5U-6U**

(disponibili in alluminio anodizzato naturale)



	TE	273 mm	357 mm	441 mm
Cod.	84	273GB084BG	357GB084BG	441GB084BG
Cod.	60	273GB060BG	357GB060BG	441GB060BG
Cod.	42	273GB042BG	357GB042BG	441GB042BG
Cod.	28	273GB028BG	357GB028BG	441GB028BG

Sub-Rack 19" da Banco

• Sub-Rack da Banco 1U-2U

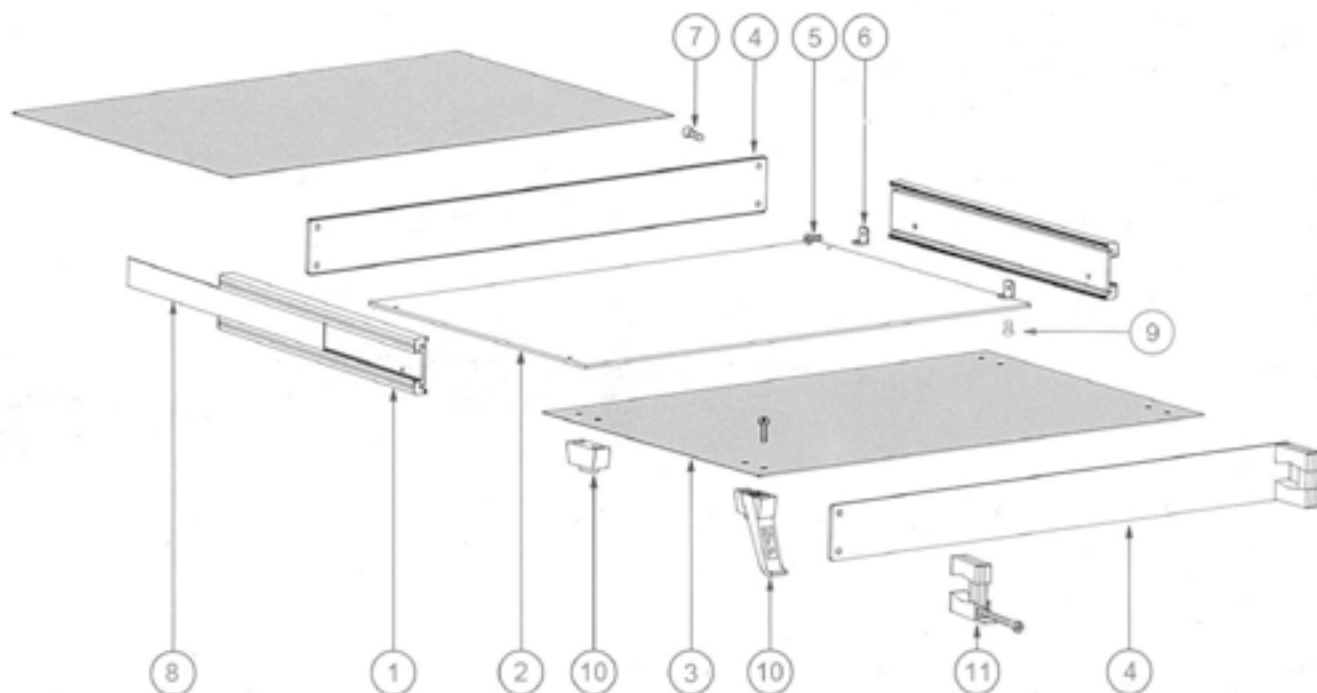
Struttura in alluminio anodizzato naturale, nero o passivato conduttivo, copertura in alluminio o lamiera zincata e plastificata color Nero, Marrone, Grigio scuro, Grigio Chiaro RAL 7035, Azzurro. Ha all'interno una piastra base da mm 2,5 di spessore, che permette il posizionamento di componenti e schede in senso orizzontale.

Il frontale può essere personalizzato con serigrafie e riferimenti di comando.

Le larghezze sono: 84TE - 60TE - 42TE - 28TE.

Le profondità sono: 213 mm - 273 mm 357 mm - 441 mm.

Le misure sono Personalizzabili



Il Kit in schema è composto da:

Accessori:

Pos.	Descrizione	Codice	No.
1	Fiancata	273R100	2
2	Piastra base 84TE	273GA084BG	1
3	Copertura sup. inf.	273H084 1-2	2
4	Pannello 84TE	020D184	1
5	Vite M4x6	234T000	4
6	Staffa zincata	118T000	4
7	Vite M4x12	220T000	8

Pos.	Descrizione	Codice	No.
8	Copertura laterale	273H100	2
9	Vite M3x6	274T000	4

Pos.	Descrizione	Pag./cod.
10	Kit Piedini	33
11	Kit Maniglie	32

	Profondità				Larghezza		Altezza
	mm 213	mm 273	mm 357	mm 441	TE	mm	
Cod.	213B184	273B184	357B184	441B184	84	426	1U
Cod.	213B160	273B160	357B160	441B160	60	304	1U
Cod.	213B142	273B142	357B142	441B142	42	213	1U
Cod.	213B128	273B128	357B128	441B128	28	142	1U
Cod.	213B284	273B284	357B284	441B284	84	426	2U
Cod.	213B260	273B260	357B260	441B260	60	304	2U
Cod.	213B242	273B242	357B242	441B242	42	213	2U
Cod.	213B228	273B228	357B228	441B228	28	142	2U

Sub-Rack 19" da Banco

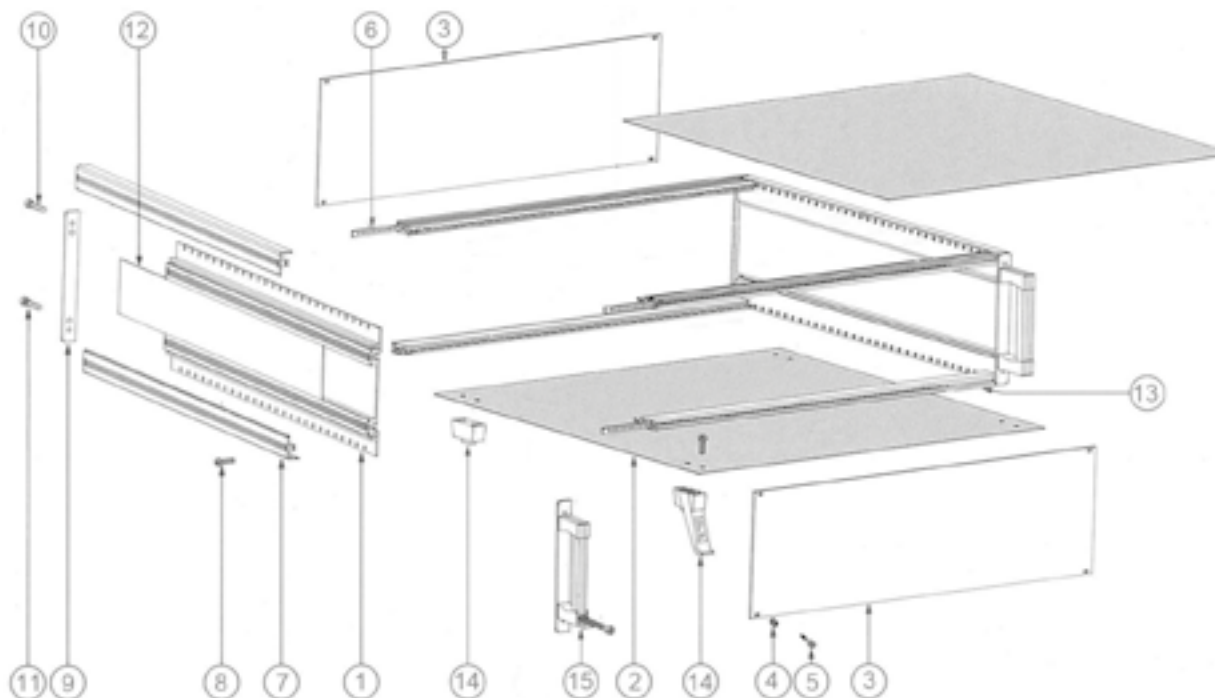
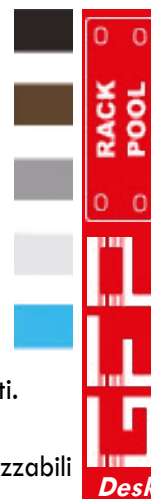
• Sub-Rack da Banco 3U-4U-6U

Struttura in alluminio anodizzato naturale, nero o passivato conduttivo, copertura in alluminio o lamiera zincata e plastificata color Nero, Marrone, Grigio scuro, Grigio Chiaro RAL 7035, Azzurro. Con l'apporto di barre intermedie del tipo DIN 41612 - DIN 41617 - Mother Board - Mother Board + isolante e guide 160-160C / 220-220C, accoglie schede eurocard 3, 4 e 6U.

In alternativa è fornito di una piastra base di mm 2,5 di spessore per il posizionamento orizzontale dei componenti.

Alle coperture è praticabile una aerazione superiore, inferiore e/o laterale.

Le larghezze sono: 84TE - 60 TE - 42TE - 28TE. Le profondità sono: mm 273 - mm 357 - mm 441. Le misure sono Personalizzabili



Il Kit in schema è composto da:

Accessori:

Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Pag./cod.
1	Fiancata	273R300	2	8	Vite M4x14	218T000	8	14	Kit Piedini	33
2	Copertura sup. inf.	273H084 3-6	2	9	Staffa Laterale	510S300	4	15	Kit Maniglie	32
3	Pannello 84TE	030D384	2	10	Vite M4	220T000	8		Guide	34
4	Fermavite Noryl VO	122Z000	8	11	Vite M5	156T000	16		Barra DIN 41612 84TE	030S084
5	Vite speciale M2,5x12	313T000	8	12	Copertura laterale	273H300	2		Barra Motherboard 84TE	020S084
6	Barretta M2,5 84TE	125S084C	4	13	Barra anteriore 84 TE	010S084	4			
7	Angolare	273S000	4							

Cod.	Profondità			TE	Larghezza		Altezza
	mm 273	mm 357	mm 441		mm		
Cod.	273B384	357B384	441B384	84	426		3U
Cod.	273B360	357B360	441B360	60	304		3U
Cod.	273B342	357B342	441B342	42	213		3U
Cod.	273B328	357B328	441B328	28	142		3U
Cod.	273B484	357B484	441B484	84	426		4U
Cod.	273B460	357B460	441B460	60	304		4U
Cod.	273B442	357B442	441B442	42	213		4U
Cod.	273B428	357B428	441B428	28	142		4U
Cod.	273B684	357B684	441B684	84	426		6U
Cod.	273B660	357B660	441B660	60	304		6U
Cod.	273B642	357B642	441B642	42	213		6U
Cod.	273B628	357B628	441B628	28	142		6U

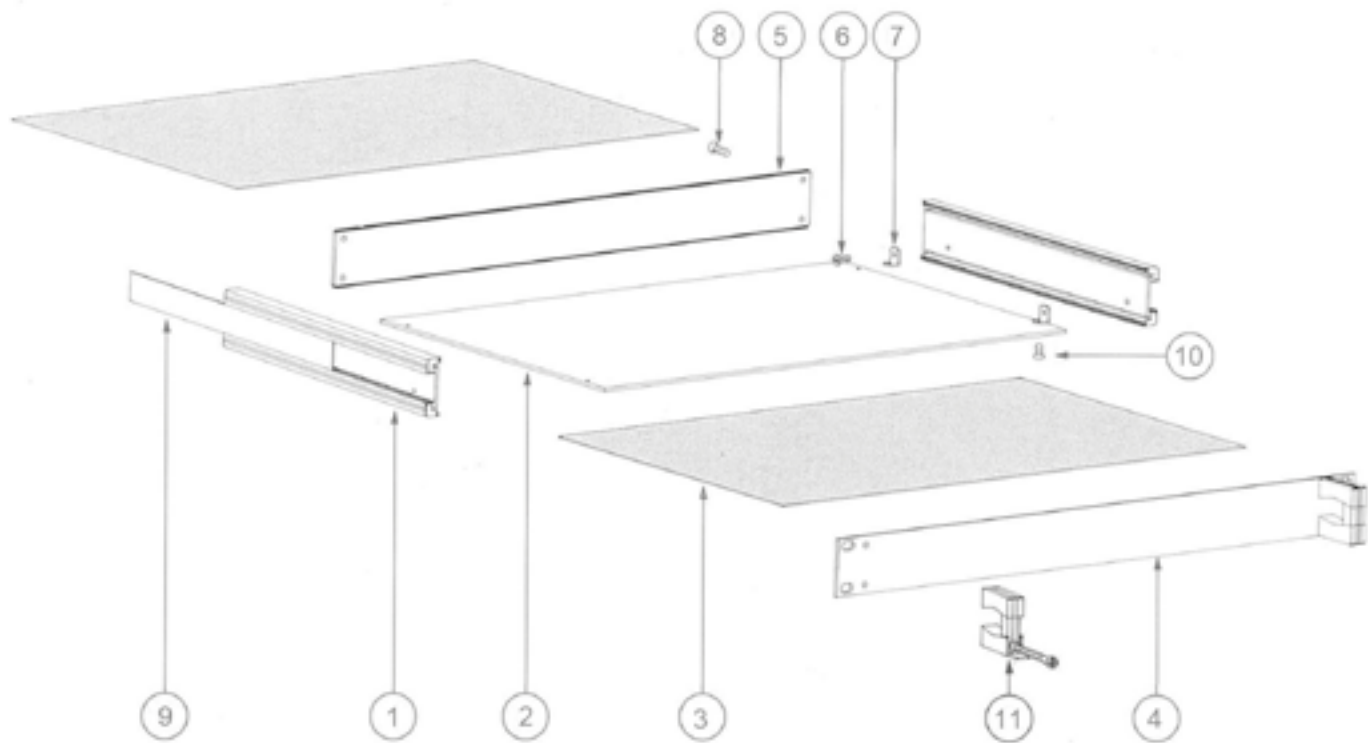
SUB-RACK 19"

Sub-Rack 19" da Banco e/o Armadio

• Sub-Rack Banco/Armadio 1U-2U

Struttura in alluminio anodizzato naturale, nero o passivato conduttivo, copertura in alluminio o lamiera zincata e plastificata color Nero, Marrone, Grigio scuro, Grigio Chiaro RAL 7035, Azzurro. Ha all'interno una piastra base da mm 2,5 di spessore, che permette il posizionamento di componenti e schede in senso orizzontale. Il frontale può essere personalizzato con serigrafie e riferimenti di comando.

La larghezza unica è di: 82TE = mm 416.
Le profondità sono: 213 mm - 273 mm 357 mm - 441 mm.
Le misure sono Customizzabili



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Codice	No.
1	Fiancata	273R100	2	8	Vite M4x12	220T000	8
2	Piastra base 82TE	273GB082BG	1	9	Copertura laterale	273H100	2
3	Copertura sup. inf.	273H082 1-2	2	10	Vite M3x6	274T000	4
4	Pannello anteriore 19"	020D195	1				
5	Pannello posteriore 82TE	020D182	1				
6	Vite M4x6	234T000	4				
7	Staffa zincata	118T000	4				

Accessori:

Pos.	Descrizione	Pag./cod.
11	Kit Maniglie	32

Cod.	Profondità				Larghezza		Altezza
	mm 213	mm 273	mm 357	mm 441	TE	mm	
Cod.	213B182	273B182	357B182	441B182	82	416	1U
Cod.	213B282	273B282	357B282	441B282	82	416	2U

Sub-Rack 19" da Banco e/o Armadio

• Sub-Rack Banco/Armadio 3U-4U-6U

Struttura in alluminio anodizzato naturale, nero o passivato conduttivo, copertura in alluminio o lamiera zincata e plastificata color Nero, Marrone, Grigio scuro, Grigio Chiaro RAL 7035, Azzurro. Con l'apporto di barre intermedie del tipo DIN 41612 - DIN 41617 - Mother Board - Mother Board + isolante guide 160-160C / 220-220C, accoglie schede eurocard.

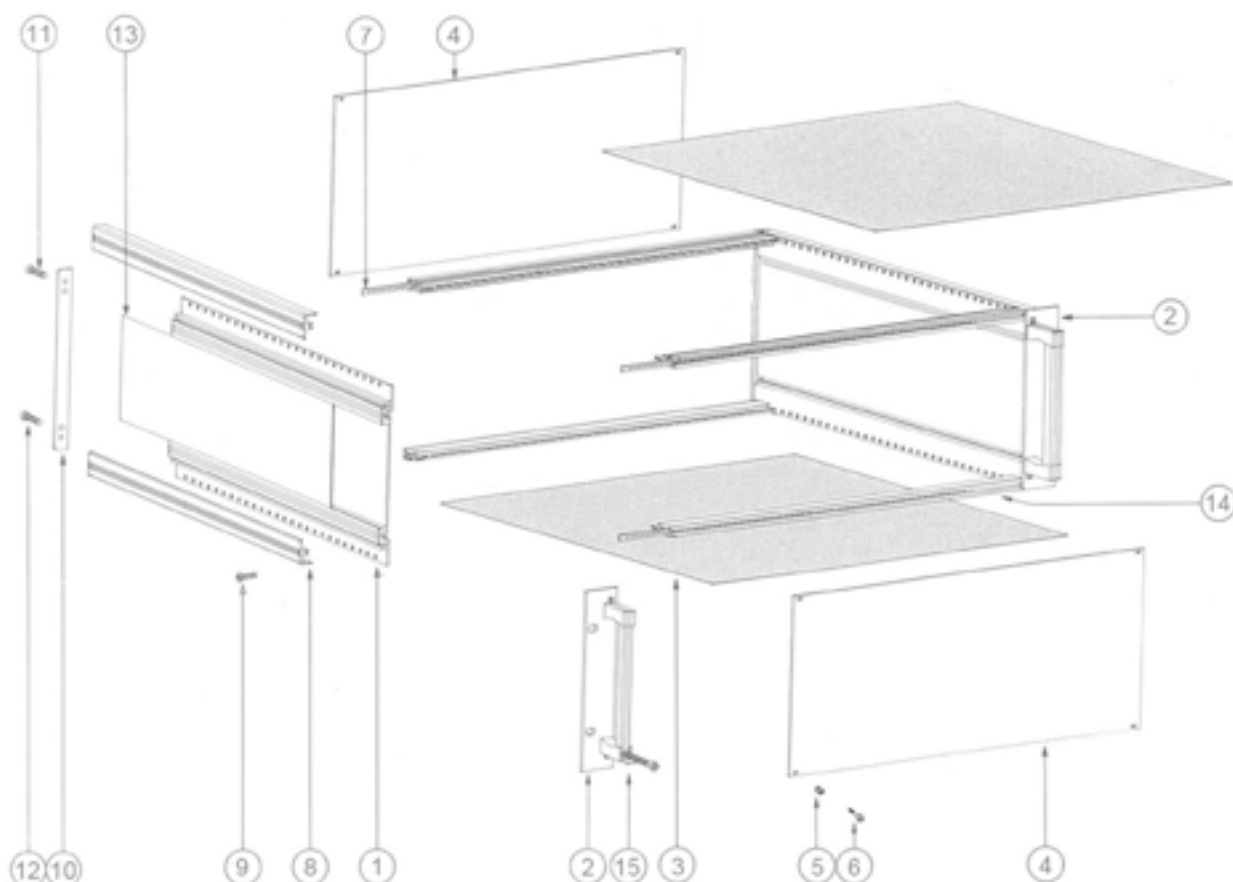
In alternativa è fornito di una piastra base di mm 2,5 di spessore per il posizionamento orizzontale dei componenti.

Alle coperture è praticabile una aerazione superiore, inferiore e/o laterale.

La larghezza unica è di: 82TE = mm 416.

Le profondità sono: mm 273 - mm 357 - mm 441 x 6U.

Questo Sub-Rack, oltre che da tavolo, è adatto ad essere inserito in normali armadi; a tale scopo è dotato di due supporti laterali alle maniglie che portano la larghezza frontale del contenitore a 19".



Il Kit in schema è composto da:

Accessori:

Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Pag./cod.
1	Fiancata	273R300	2	8	Angolare	273S000	4	15	Kit Maniglie	32
2	Staffa laterale anteriore	512S300	2	9	Vite M4x14	218T000	8		Guide	34
3	Copertura sup. inf.	273H082 3-6	2	10	Staffa laterale posteriore	510S300	2		Barra DIN 41612 82TE	030S082
4	Pannello 82TE	030D382	2	11	Vite M4	220T000	8		Barra Motherboard 82TE	020S082
5	Fermavite Noryl VO	122Z000	8	12	Vite M5	156T000	16		Barra Centrale DIN 41612 82TE	080S082
6	Vite speciale M2,5x12	313T000	8	13	Copertura laterale	273H300	2			
7	Barretta M2,5 82TE	125S082C	4	14	Barra anteriore 82 TE	010S082	4			

Profondità				Larghezza		Altezza
	mm 273	mm 357	mm 441	TE	mm	
Cod.	273B382	357B382	441B382	82	416	3U
Cod.	273B482	357B482	441B482	82	416	4U
Cod.	273B682	357B682	441B682	82	416	6U

SUB-RACK 19"

Sub-Rack 19": Cassetti

• Cassetto 3U (prof 160/220)

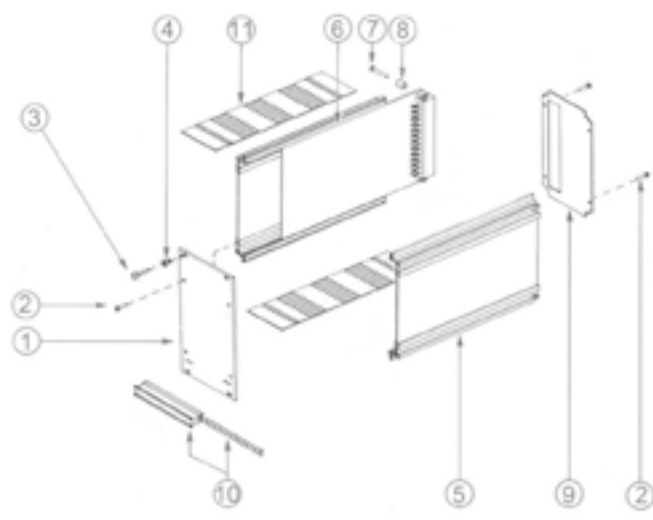
La struttura è in alluminio anodizzato naturale, nero o passivato conduttivo. Le coperture superiori ed inferiori sono in alluminio.

Il cassetto GFP RACK POOL da 3U è disponibile in molte versioni di larghezza:

42TE, 32TE, 28TE, 24TE, 21TE, 18TE, 16TE, 14TE, 12TE, 10TE, 8TE.

E' posizionato, nel Sub-Rack, mediante le guide normalmente usate per i circuiti stampati eurocard.

Il cassetto accoglie una o più schede: 3U 160/220



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Pannello frontale 3U 14TE	060D314	1
2	Vite M2,5X10	318T001	8
3	Vite M2,5 zigrinata	310T000	4
4	Fermavite Noryl VO	122Z000	4
5	Fiancata Destra 160x3U	012R300	1
6	Fiancata Sinistra 160x3U (per raccordi)	010R300	1
7	Vite M2,5X4	328T000	4
8	Raccordo ottone scheda cassetto	114T000	2
9	Copertura posteriore 14 TE - Cava DIN	180H314	1
	Copertura posteriore 14 TE - Chiusa	182H314	
	Copertura posteriore 14 TE - Aperta	183H314	
10	Kit impugnatura 14TE - Plastica	209Z014	1
	Kit impugnatura 14TE - Standard	210K014	
	Kit impugnatura 14TE - Maxi	218K014	
11	Copertura Sup./Inf. 14TE - Chiusa	150H314	2
	Copertura Sup./Inf. 14TE - Areata	152H314	

Accessori:

Descrizione	Pag./cod.
Guide per cassetto Noryl VO	34

Cassetto 3U = mm 100x220

Kit Codice	A = mm	B = mm	C = mm	TE
220C342	213,1	198,2	208,7	42
220C332	162,2	147,4	157,9	32
220C328	141,9	127	137,5	28
220C324	121,6	106,7	117,2	24
220C321	106,4	91,5	102	21
220C318	91,1	76,2	86,7	18
220C314	70,8	55,9	66,4	14
220C310	50,5	35,6	46,1	10
220C308	40,4	25,5	36	08

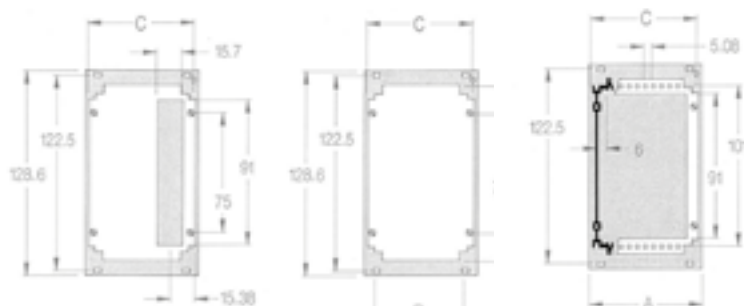
Cassetto 3U = mm 100x160

Kit Codice	A = mm	B = mm	C = mm
160C342	213,1	198,1	208,7
160C332	162,2	147,4	157,9
160C328	141,9	127,1	137,5
160C324	121,6	106,7	117,5
160C321	106,4	91,5	102
160C318	91,1	76,2	86,7
160C314	70,8	55,9	66,4
160C310	50,5	35,6	46,1
160C308	40,4	25,5	36

Copertura DIN

Copertura Chiusa

Copertura Aperta



TE Copertura DIN Copertura Chiusa Copertura Aperta

TE	Copertura DIN	Copertura Chiusa	Copertura Aperta
42	180H342	182H342	183H342
32	180H332	182H332	183H332
28	180H328	182H328	183H328
24	180H324	182H324	183H324
21	180H321	182H321	183H321
18	180H318	182H318	183H318
14	180H314	182H314	183H314
10	180H312	182H312	183H312
08	180H308	182H308	183H308

In fase d'ordine si prega di specificare il trattamento superficiale (Vedi pag. 180-181) e l'impugnatura richiesta (Vedi pag. 31)

Sub-Rack 19": Cassetti

● Cassetto 6U (prof 160/220)

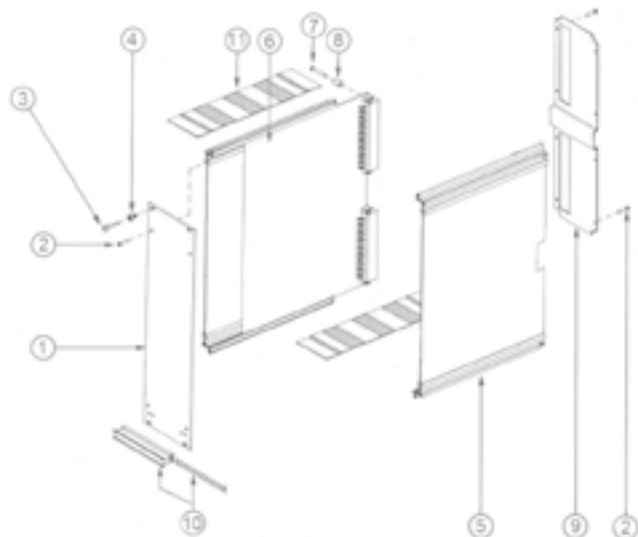
La struttura è in alluminio anodizzato naturale, nero o passivato conduttivo. Le coperture superiori ed inferiori sono in alluminio.

Il cassetto GFP RACK POOL da 6U è disponibile in molte versioni di larghezza:

42TE, 32TE, 28TE, 24TE, 21TE, 18TE, 16TE, 14TE, 12TE, 10TE, 8TE.

E' posizionato, nel Sub-Rack, mediante le guide normalmente usate per i circuiti stampati eu-rocard.

Il cassetto accoglie una o più schede: 6U 160/220



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Pannello frontale 6U 14TE	060D614	1
2	Vite M2,5X10	318T001	8
3	Vite M2,5 zigrinata	310T000	4
4	Fermavite Noryl VO	122Z000	4
5	Fiancata Destra 160x6U	012R600	1
6	Fiancata Sinistra 160x6U (per raccordi)	010R600	1
7	Vite M2,5X4	328T000	4
8	Raccordo ottone scheda cassetto	114T000	2
9	Copertura posteriore 14 TE - Cava DIN	180H614	1
	Copertura posteriore 14 TE - Chiusa	182H614	
	Copertura posteriore 14 TE - Aperta	183H614	
10	Kit impugnatura 14TE - Plastica	209Z014	1
	Kit impugnatura 14TE - Standard	210K014	
	Kit impugnatura 14TE - Maxi	218K014	
11	Copertura Sup./Inf. 14TE - Chiusa	150H614	2
	Copertura Sup./Inf. 14TE - Areata	152H614	

Accessori:

Descrizione	Pag./cod.
Guide per cassetto Noryl VO	34

Cassetto 6U = mm 233,4x220

KIT CODICE	A = mm	B = mm	C = mm	TE
220C660	304,5	289,6	300,1	60
220C646	233,4	218,5	229	46
220C642	213,1	198,2	208,7	42
220C632	162,2	147,3	157,9	32
220C628	141,9	127	137,5	28
220C624	121,6	106,7	117,2	24
220C621	106,4	91,5	102	21
220C618	91,1	76,2	86,7	18
220C614	70,8	55,9	66,4	14
220C610	50,5	35,6	46,1	10

Cassetto 6U = mm 233,4x160

KIT CODICE	A = mm	B = mm	C = mm
160C660	304,5	289,6	300,1
160C646	233,4	218,5	229
160C642	213,1	198,2	208,7
160C632	162,3	147,3	157,9
160C628	141,9	127	137,5
160C624	121,6	106,7	117,2
160C621	106,4	91,5	102
160C618	91,5	76,2	86,7
160C614	70,8	55,9	66,4
160C610	50,5	35,6	46,1

Copertura DIN

Copertura Chiusa

Copertura Aperta



TE Copertura DIN Copertura Chiusa Copertura Aperta

42	180H642	182H642	183H642
32	180H632	182H632	183H632
28	180H628	182H628	183H628
24	180H624	182H624	183H624
21	180H621	182H621	183H621
18	180H618	182H618	183H618
14	180H614	182H614	183H614
10	180H612	182H612	183H612
08	180H608	182H608	183H608

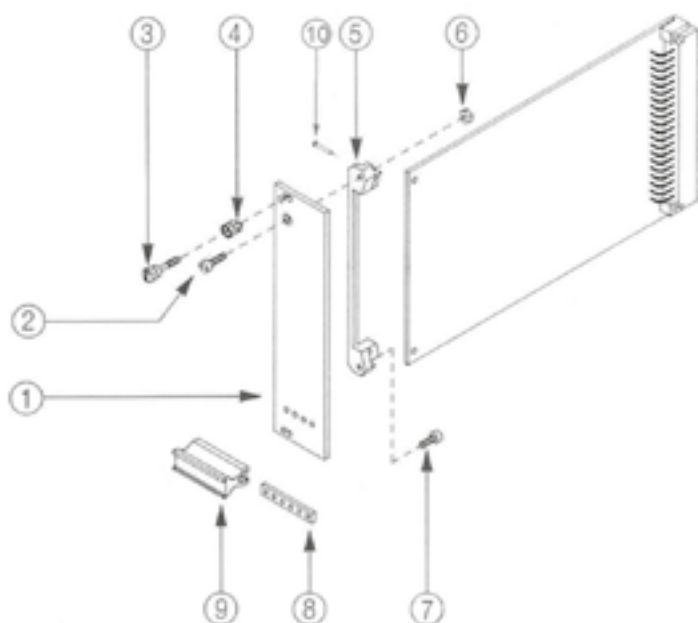
In fase d'ordine si prega di specificare il trattamento superficiale (Vedi pag. 180-181) e l'impugnatura richiesta (Vedi pag. 31)

SUB-RACK 19"

Sub-Rack 19": Accessori

• Frontalini Modulari 3U

I frontalini modulari sono in alluminio di spessore mm 2,5 anodizzato naturale, nero o passivato conduttivo.

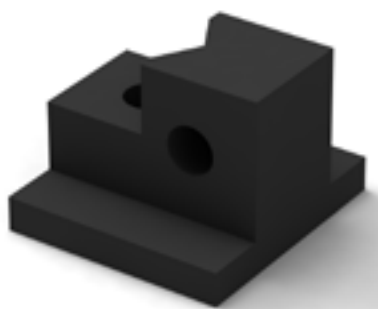
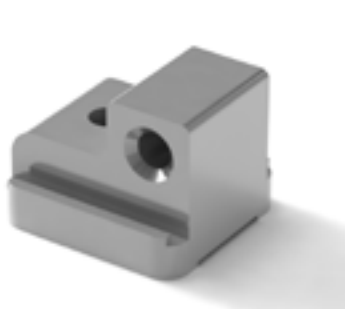


Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Frontalino 3U 6TE	040D314	1
2	Vite M2,5X10	318T001	1
3	Vite M2,5 zigrinata	310T000	2-4
4	Fermavite Noryl VO	122Z000	2-4
5	Raccordo Noryl VO	050Z000	1
6	Dado M2,5	020T000	3
7	Vite M2,5X12	316T000	1
8	Barretta per impugnatura 6TE	150S006C	1
9	Impugnatura 6TE	210S006	1
10	Vite M2,5X8	322T000	3

Kit Codice	Larghezza (mm)	TE	Kit Codice	Larghezza (mm)	TE	Kit Codice	Larghezza (mm)	TE
010D342	213,1	42	010D316	81	16	010D308	40,3	08
010D332	162,2	32	010D315	75,9	15	010D307	35,2	07
010D328	141,9	28	010D314	70,8	14	010D306	30,2	06
010D324	121,6	24	010D313	65,7	13	010D305	25,1	05
010D322	111,4	22	010D312	60,7	12	010D304	20	04
010D321	106,4	21	010D311	55,6	11	010D303	14,9	03
010D320	101,3	20	010D310	50,5	10			
010D318	91,1	18	010D309	45,4	09			

• Accessori per il fissaggio della scheda



foro Ø2,6 e filetto M2,5
doppio filetto M2,5

315T001
315T000

Cod.

315Z000

Cod.

050Z000

In fase d'ordine si prega di specificare il trattamento superficiale (Vedi pag. 180-181), il tipo di raccordo e l'impugnatura richiesta (Vedi pag. 31)

Sub-Rack 19": Accessori

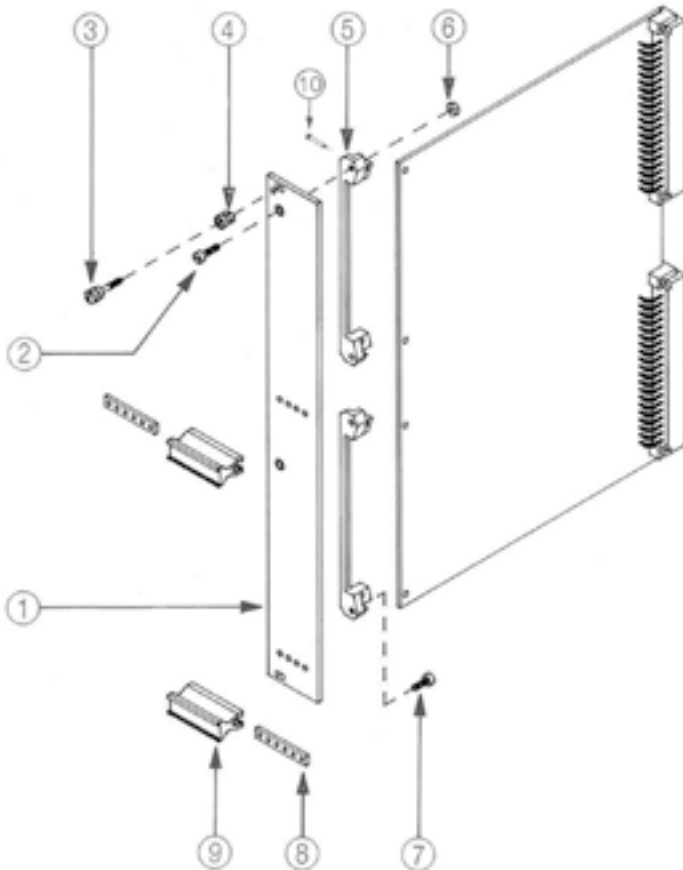
• Frontalini Modulari 6U

I frontalini modulari sono in alluminio di spessore mm 2,5 anodizzato naturale, nero o passivato conduttivo.



RACK
POOL

GFP



Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Frontalino 6U 6TE	040D614	1
2	Vite M2,5X10	318T001	2
3	Vite M2,5 zigrinata	310T000	2-4
4	Fermavite Noryl VO	122Z000	2-4
5	Raccordo Noryl VO	050Z000	2
6	Dado M2,5	020T000	6
7	Vite M2,5X12	316T000	2
8	Barretta per impugnatura 6TE	150S006C	2
9	Impugnatura 6TE	210S006	2
10	Vite M2,5X8	322T000	6

Kit Codice	Larghezza (mm)	TE	Kit Codice	Larghezza (mm)	TE	Kit Codice	Larghezza (mm)	TE
010D642	213,1	42	010D616	81	16	010D608	40,3	08
010D632	162,2	32	010D615	75,9	15	010D607	35,2	07
010D628	141,9	28	010D614	70,8	14	010D606	30,2	06
010D624	121,6	24	010D613	65,7	13	010D605	25,1	05
010D622	111,4	22	010D612	60,7	12	010D604	20	04
010D621	106,4	21	010D611	55,6	11	010D603	14,9	03
010D620	101,3	20	010D610	50,5	10			
010D618	91,1	18	010D609	45,4	09			

In fase d'ordine si prega di specificare il trattamento superficiale (Vedi pag. 180-181), il tipo di raccordo e l'impugnatura richiesta (Vedi pag. 31)

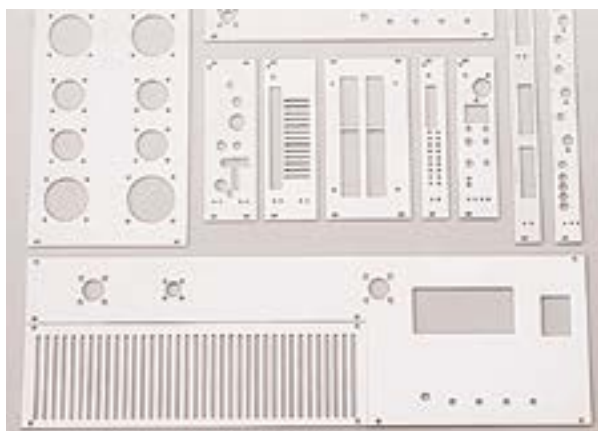
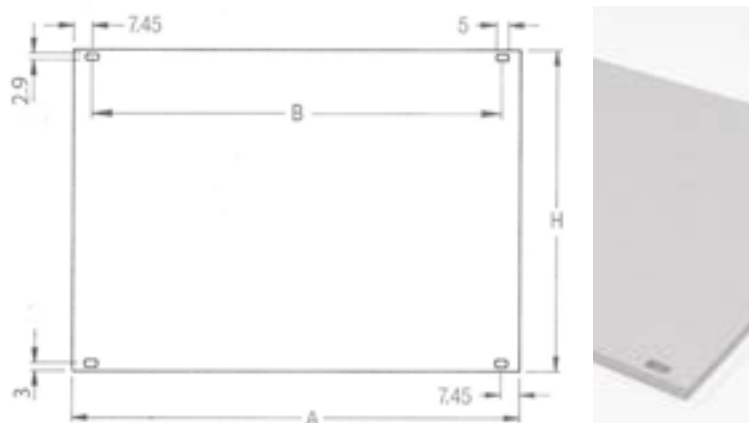
SUB-RACK 19"

Sub-Rack 19": Accessori

• Pannelli Frontali

Questi frontali chiusi satinati, sono in alluminio di spessore mm 2,5 anodizzato naturale, nero o passivato. Sono il completamento frontale del Sub-Rack, da 1U a 9U di altezza.

Le misure in larghezza sono tutte realizzabili da 3TE a 85TE.



A=mm	B=mm	TE	3U = mm 128,6	6U = mm 262	9U = mm 395,2
431,5	416,6	85	030D385	030D685	030D985
426,4	411,5	84	030D384	030D684	030D984
416,2	401,3	82	030D382	030D682	030D982
324,8	309,9	64	030D364	030D664	030D964
309,6	294,7	61	030D361	030D661	030D961
304,5	289,6	60	030D360	030D660	030D960
294,3	279,4	58	030D358	030D658	030D958
253,7	238,8	50	030D350	030D650	030D950
233,4	218,5	46	030D346	030D646	030D946
218,1	203	43	030D343	030D643	030D943
213,1	198,1	42	030D342	030D642	030D942
162,2	147,3	32	030D332	030D632	030D932
152,1	137,2	30	030D330	030D630	030D930
147	132,1	29	030D329	030D629	030D929
141,9	127	28	030D328	030D628	030D928
131,7	116,8	26	030D326	030D626	030D926
121,6	106,7	24	030D324	030D624	030D924
111,4	95,5	22	030D322	030D622	030D922
106,4	91,5	21	030D321	030D621	030D921
101,3	86,4	20	030D320	030D620	030D920
91,1	76,2	18	030D318	030D618	030D918
81	66,1	16	030D316	030D616	030D916
75,9	61	15	030D315	030D615	030D915
70,8	55,9	14	030D314	030D614	030D914
65,7	50,8	13	030D313	030D613	030D913
60,7	45,7	12	030D312	030D612	030D912
55,6	40,7	11	030D311	030D611	030D911
50,5	35,6	10	030D310	030D610	030D910
45,4	-	09	030D309	030D609	030D909
40,3	-	08	030D308	030D608	030D908
35,2	-	07	030D307	030D607	-
30,2	-	06	030D306	030D606	-
25,1	-	05	030D305	030D605	-
20	-	04	030D304	030D604	-
14,9	-	03	030D303	030D603	-

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

Sub-Rack 19": Accessori

• Impugnature Alluminio e Noryl VO in Kit

Alluminio Standard ⁽¹⁾		Alluminio Maxi ⁽²⁾		Impugnatura Noryl VO ⁽³⁾	
TE	KIT (Piastrina opzionale)		KIT (Piastrina opzionale)		KIT (comprende piastrina)
3	210K003		218K003		209Z003
4	210K004		218K004		209Z004
5	210K005		218K005		209Z005
6	210K006		218K006		209Z006
7	210K007		218K007		209Z007
8	210K008		218K008		209Z008
XX	210K0XX		218K0XX		209Z0XX

• Impugnature Alluminio e Noryl VO, Componenti

Alluminio Standard ⁽¹⁾			Alluminio Maxi ⁽²⁾			Barretta filettata in ottone		Impugnatura Noryl VO ⁽³⁾	
TE	Impugnatura	Piastrina	Impugnatura	Piastrina				Impugnatura	Piastrina
3	210S003	551S003	218S003	553S003		150S003		210Z003	550S003
4	210S004	551S004	218S004	553S004		150S004		210Z004	550S004
5	210S005	551S005	218S005	553S005		150S005		210Z005	550S005
6	210S006	551S006	218S006	553S006		150S006		210Z006	550S006
7	210S007	551S007	218S007	553S007		150S007		210Z007	550S007
8	210S008	551S008	218S008	553S008		150S008		210Z008	550S008
XX	210S0XX	551S0XX	218S0XX	553S0XX		150S0XX		210Z0XX	550S0XX

N.B. Sono disponibili tutte le misure da 03 a 84 TE in fase d'ordine specificare il codice desiderato: es 20TE 210K020

• Kit impugnatura Estrattore

Cod. KIT Superiore Nero ⁽¹⁾	KIT006	Cilindretto metallico	1GFP000016
Cod. KIT Inferiore Nero ⁽²⁾	KIT007	Piastrina	552S004BN
Cod. KIT Superiore Grigio ⁽³⁾	KIT004	Vite M2,5x8	308T000
Cod. KIT Inferiore Grigio ⁽⁴⁾	KIT005	Impugnatura Superiore Nera ⁽¹⁾	211Z000
		Impugnatura Inferiore Nera ⁽²⁾	212Z000
		Impugnatura Superiore Grigia ⁽³⁾	213Z000
		Impugnatura Inferiore Grigia ⁽⁴⁾	0214Z000



• Pannelli Frontali con Cerniera

Pannello da utilizzare, assemblato ad un corpo cerniera (profilato alluminio) sostenuto da due supporti orizzontali o verticali, può ruotare di 90° se orizzontale e di 180° se verticale.

Questo risolve la necessità di frequenti ispezioni controllo o di sostituzione dei componenti elettronici disposti nel Sub-Rack da 6U e 3U, senza interrompere i collegamenti di controllo o comando posti sul frontale.

Le cerniere hanno un ingombro minimo e l'area del pannello è tutta utilizzabile per eventuali lavorazioni, posizionamenti o serigrafie.



Cerniera Verticale 3U+Pannello=TE	Cerniera Verticale 6U+Pannello=TE	Cerniera Orizzontale =TE+Pannello 3U	Cerniera Orizzontale =TE+Pannello 6U
010E385	010E685	050E385	050E685
010E384	010E684	050E384	050E684
010E382	010E682	050E382	050E682
010E361	010E661	050E361	050E661
010E360	010E660	050E360	050E660
010E343	010E643	050E343	050E643
010E342	010E642	050E342	050E642
010E329	010E629	050E329	050E629
010E328	010E628	050E328	050E628

Sub-Rack 19": Accessori

• Kit 2 Maniglie "Tondino Ø 8" + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)



1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. 0111100	0111200	0111300	0111400	0111500	0111600	0111700	0111800	0111900

• Kit 2 Maniglie con giunti in Plastica (Armadio) + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)



1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. 0101100	0101200	0101300	0101400	0101500	0101600	0101700	0101800	0101900

• Kit 2 Maniglie con giunti in Plastica (Banco) + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)



1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. 0121100	0121200	0121300	0121400	0121500	0121600	0121700	0121800	0121900

• Kit 2 Maniglie Estruso 11x7 + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)



1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. 0131100	0131200	0131300	0131400	0131500	0131600	0131700	0131800	0131900

• Kit 2 Maniglie Estruso 15x10 + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)



1U	2U	3U	4U	5U	6U	7U	8U	9U
Cod. 0141300	0141400	0141500	0141600	0141700	0141800	0141900		

• Kit Maniglie GFPRail/PCI + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)

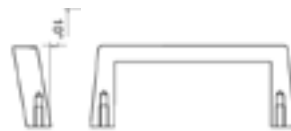
3U	4U	6U
Cod. 0161300	0161400	0161600



• Kit Maniglie GFPRail/PCI 10° + viti

(Alluminio, anodizzato naturale, nero o passivato conduttivo)

3U	4U	6U
Cod. 0171300	0171400	0171600



Sub-Rack 19": Accessori

• Pannelli 19" (95TE) Alluminio satinato anodizzato

Pannelli 19" in alluminio 30/10 satinato, anodizzato naturale, nero o passivato da installare direttamente su armadi 19". Di serie sono forniti ciechi.

Se richiesto è possibile accessoriarli con maniglie (sub-rack), fori per areazione viti M6x16 zincate bianche e rondelle in noryl VO nere.



1U	2U	3U	4U	5U	6U	7U	8U	9U
010F195	010F295	010F395	010F495	010F595	010F695	010F795	010F895	010F995

In fase d'ordine si prega di specificare il trattamento superficiale richiesto (Vedi pag. 180-181) - Anodizzato Naturale, Nero, Surtec 650 o Verniciato

• Coperture Posteriori

Le coperture dei racks GFP RACK POOL sono in alluminio anodizzato naturale, nero o passivato conduttivo, copertura in alluminio o lamiera zincata e plastificata color Nero, Marrone, Grigio scuro, Grigio Chiaro RAL 7035, Azzurro.

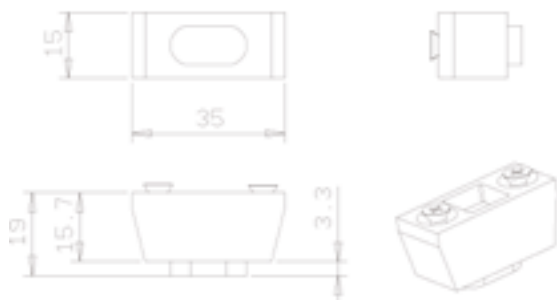
Hanno una pellicola protettiva di spelabile plastico molto utile durante la lavorazione e il trasporto.

L'aerazione è ottenuta da una serie di spacchi da mm 30x2, secondo le richieste e le necessità.



TE	Copertura Posteriore 3U		Copertura Posteriore 6U	
	Chiusa	Areata	Chiusa	Areata
84	120H384	122H384	120H684	122H684

• Kit Piedini Fissi Noril VO

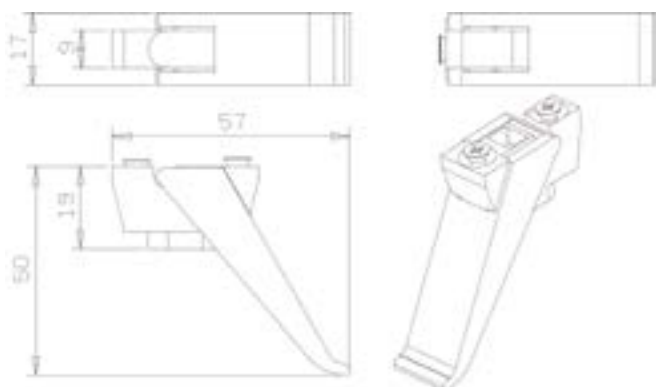


Cod Kit 4 Piedini Fissi + Viti

082I000



• Kit Piedini Alzabili Noril VO



Cod Kit 2 Piedini Fissi e 2 Alzabili + Viti

084I000

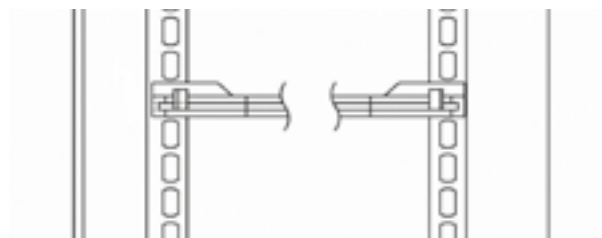


Sub-Rack 19": Accessori

• Guida Schede

Materiale autoestinguente noryl VO color nero

Lo spostamento laterale minimo è di 1 TE = mm 5,08.



Cod. Guida 280 (Barra DIN)	006Z000
Cod. Guida 280C (Barra MB)	008Z000
Cod. Guida 220 (Barra DIN)	010Z000
Cod. Guida 220C (Barra MB)	012Z000
Cod. Guida 160 (Barra DIN)	014Z000
Cod. Guida 160C (Barra MB)	016Z000
Cod. Guida cassetto 220-160	018Z000

Kit minimo 20 pezzi



• Guida Schede Componibili

Disponibile in qualsiasi misura desiderata

Disponibile con corpo centrale in alluminio o in Noryl VO

Cod. Testa Destra	001Z000
Cod. Testa Sinistra	003Z000
Cod. Barra centrale in Noryl VO Estrusa (1m)	004Z000
Cod. Barra centrale in Alluminio Estrusa (1m)	600S1000

Kit minimo 20 pezzi



• Barretta Isolante

Listello in noryl VO autoestinguente mm 3x7 forato Ø 3,3 garantisce l'isolamento necessario, anche in presenza di piste sul margine della scheda madre.



TE	84	42	21
Codice	280Z084	280Z042	280Z021

• Striscia Numerata

Strisce numerate adesive 1 kit = 10 pezzi.

Sono applicate sul profilato anteriore per l'identificazione delle schede. I numeri sono in nero da 1/84 e da 84/1

I frontalini GFP RACK POOL hanno, di serie, un foro per la lettura della posizione scheda.

	N° 01 - 84	N° 84 - 01
Codice	250Z084	252Z084



Sub-Rack 19": Accessori

- *Blocca Scheda Noryl VO*

Cod. 094Z000



- *Estrattore Scheda Noryl VO*

Cod. 092Z000

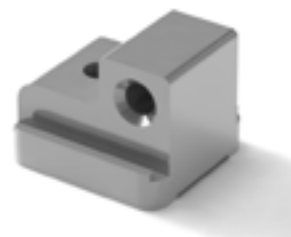


- *Supporto scheda in Zama filettato*

foro Ø2,6 e filetto M2,5
doppio filetto M2,5

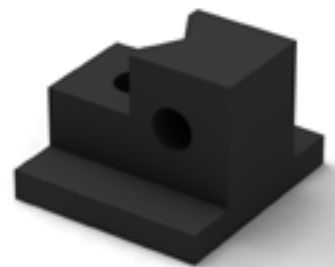
315T001

315T000



- *Supporto scheda in Noryl VO*

Cod. 315Z000



- *Raccordo Frontalino - Scheda*

Cod. 050Z000



- *Supporto cerniere in Noryl VO*

Cod. Supporto cerniera verticale alto⁽¹⁾

062Z000

Cod. Supporto cerniera verticale basso⁽²⁾

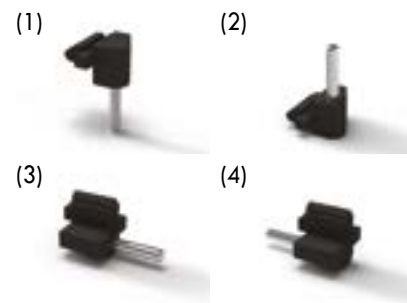
064Z000

Cod. Supporto cerniera orizzontale sinistra⁽³⁾

068Z000

Cod. Supporto cerniera orizzontale destra⁽⁴⁾

066Z000



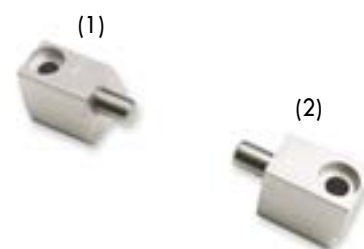
- *Supporto cerniere in Alluminio*

Cod. Supporto cerniera sinistro/superiore⁽¹⁾

068Z000CG

Cod. Supporto cerniera destro/inferiore⁽²⁾

066Z000CG



Sub-Rack 19": Accessori

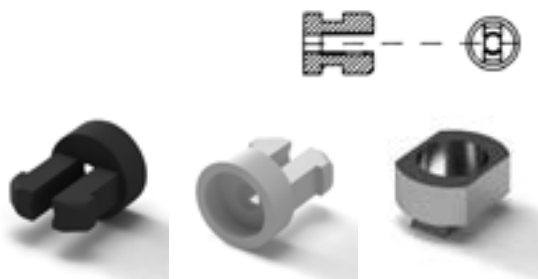
• Boccola plastica e metallica

Cod. Boccola Plastica Nera (Asola 5x2.9)
Cod. Boccola Plastica Grigia (Asola 5x2.9)
Boccola Inox standard (Asola 5x2.9)

122Z000

122Z001

507T000



• Vite imperdibile

Cod. Vite imperdibile zigrinata
Cod. Vite imperdibile Taglio
Cod. Vite imperdibile Croce

310T000

312T000

313T000



• Dado frenato

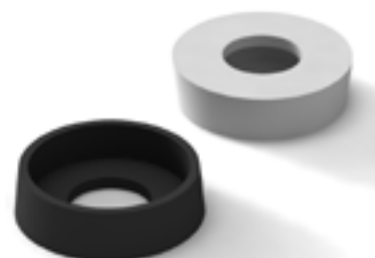
Utilizzato in sostituzione alla barretta filettata in caso di utilizzo di pannello unico, sul fronte o sul retro del sub-rack

Cod. 044T000



• Rondella Ø 6 per fissaggio armadio

Cod. Rondella nera 112Z000
Cod. Rondella grigia 113Z000



• Inserti

- inserti distanziali
- inserti a tirare
- dadi autoaggancianti (sporgenti e filo lamiera)
- perni filettati

Disponibili in varie misure in ferro zincato o inox



• Distanziatori in Ottone Nichelato

Disponibili in varie misure M-F/F-F



• Dado gabbato

Dado Gabbato 3 MA
Dado Gabbato 4 MA
Dado Gabbato 5 MA
Dado Gabbato 6 MA

Sp. 0,7-1,6

Sp. 1,7-2,6

019T000

019T002

015T000

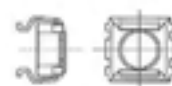
015T002

013T000

013T002

010T000

010T002



Sub-Rack 19": Viteria



• Viti testa cilindrica/ impronta croce

MA	4	5	6	8	10	12	14	16	18	20	35	50
M2,5	328T000	326T000	324T000	322T000	320T000	316T000	308T000	306T000	304T000	302T000		
M3	278T000	275T000	272T000	268T000	262T000	258T000	256T000	254T000	252T000	250T000		
M4	237T000	238T000	234T000	228T000	222T000	239T000	216T000	212T000	240T000	208T000	206T000	202T000
M5				281T001	281T002	280T000	281T003	281T004	281T005	281T000	281T006	152T000
M6					142T002	142T003	142T004	142T000	142T005	142T006	142T007	142T008

• Viti testa svasata piana/ impronta croce



MA	4	5	6	8	10	12	14	16	18	20	35	50
M2,5	323T000	327T000	325T001	301T000	318T001	317T000	314T000	319T000	337T000	338T000		
M3	271T000	276T000	274T000	269T000	266T000	267T000	265T000	261T000	263T000	259T000		
M4		235T000	332T000	226T000	224T000	229T000	221T000	217T000	210T000	209T000	205T000	203T000
M5			279T000	279T001	279T002	279T003	279T004	279T005	279T006	279T007	279T008	279T009
M6					282T000	282T001	282T002	282T003	282T004	282T005	282T006	282T007

• Viti a testa svasata ridotta



M4x12 (vite M4 con testa svasata dimensionata come vite M3) Cod.	220T000
M5x16 (vite M5 con testa svasata dimensionata come vite M4) Cod.	156T000

• Viti Auto filettanti



Ø filettatura 2,9 x 6 (coperture/svasate)	020T000
Ø filettatura 3,9 x 4 (testa cilindrica)	018T000
Ø filettatura 3,9 x 16 (piedini)	016T000

• Dado esagonale



Dado Esagonale 2,5 MA	020T000
Dado Esagonale 3 MA	018T000
Dado Esagonale 4 MA	016T000
Dado Esagonale 5 MA	014T000
Dado Esagonale 6 MA	012T000

* Le viti standard sono in ferro zincato, sono disponibili a richiesta viti in acciaio, nichelate o nere, in questo caso al codice va aggiunto il suffisso: Standard = Zincato / A= INOX / Ni = Nichelato / N=Brunito Nero.
es: 234T000 vite M4x6 (ferro zincato) - 234T000A vite M4x6 (acciaio INOX), xxxxxxxNi, xxxxxxxN, ecc...

Sub-Rack 19" GFP serie Light

- *I Sub-Rack leggeri ed essenziali fino a 3U*

Queste soluzioni molto eleganti e leggere presentano il vantaggio di avere un Sub-Rack costituito da soli 4 pezzi.

La struttura è in alluminio anodizzato naturale, nero o passivato conduttivo.

I pannelli, in estruso, possiedono ognuno 6 inserti (dadi autoaggancianti M3) per il fissaggio delle due coperture, con 12 viti M3 x 6 è dunque possibile montare il contenitore interamente di alluminio

Sia i pannelli che le coperture possono essere chiusi o aerati, lavorati a disegno; è possibile aggiungere distanziali per il fissaggio delle schede elettroniche in un contesto di infinite customizzazioni in base al disegno del cliente o alla possibilità di partire dalle schede per progettare e produrre grazie al nostro ufficio tecnico meccanico/elettronico l'intero sistema meccanico, eventualmente anche cablato e montato.

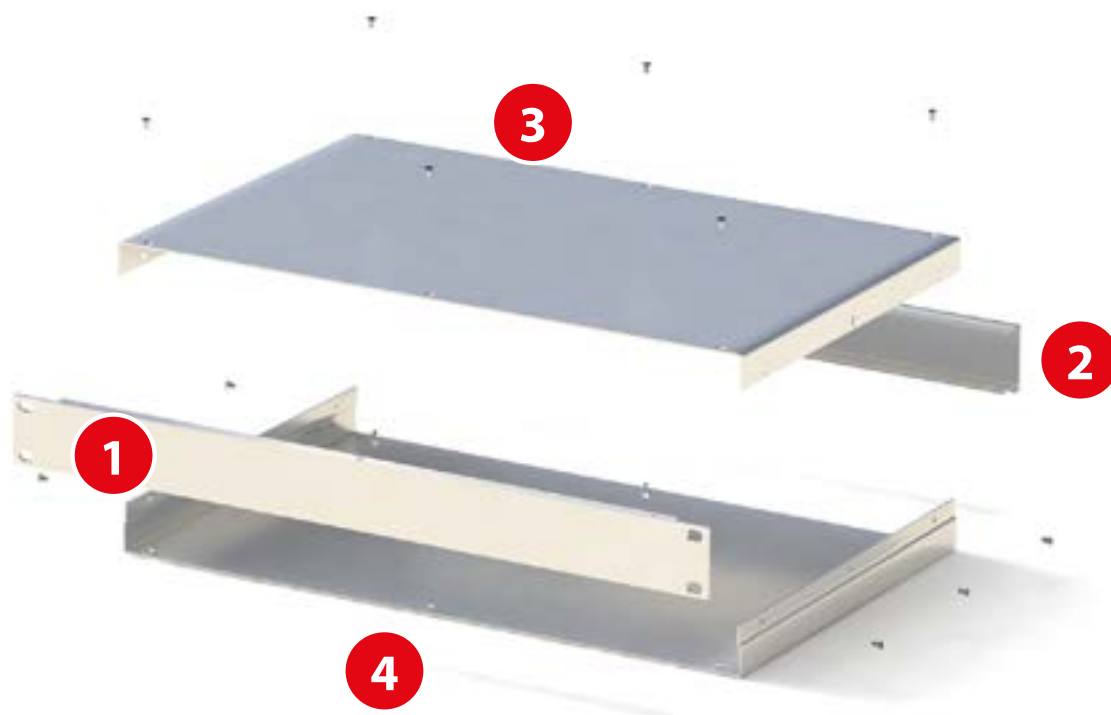
I Sub-Rack di questo tipo possono essere alti

1 U = 43,6 mm (altezza pannelli frontale e posteriore)

2 U = 88,1 mm

3 U = 132,5 mm





Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.
1	Pannello Frontale	020E195	1
2	Pannello Posteriore	020E184	1
3	Copertura Superiore	273E195-RS	1
4	Copertura Inferiore	273E195-RI	1
	Viti M3x6 Testa Svasata	274T000	18

• Sub-Rack GFP Light 1U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K195	213K195	273K195	357K195	441K195	95	482
Cod.	113K184	213K184	273K184	357K184	441K184	84	426
Cod.	113K160	213K160	273K160	357K160	441K160	60	304
Cod.	113K142	213K142	273K142	357K142	441K142	42	213
Cod.	113K128	213K128	273K128	357K128	441K128	28	142

• Sub-Rack GFP Light 2U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K295	213K295	273K295	357K295	441K295	95	482
Cod.	113K284	213K284	273K284	357K284	441K284	84	426
Cod.	113K260	213K260	273K260	357K260	441K260	60	304
Cod.	113K242	213K242	273K242	357K242	441K242	42	213
Cod.	113K228	213K228	273K228	357K228	441K228	28	142

• Sub-Rack GFP Light 3U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K395	213K395	273K395	357K395	441K395	95	482
Cod.	113K384	213K384	273K384	357K384	441K384	84	426
Cod.	113K360	213K360	273K360	357K360	441K360	60	304
Cod.	113K342	213K342	273K342	357K342	441K342	42	213
Cod.	113K328	213K328	273K328	357K328	441K328	28	142

Pannelli e coperture sono personalizzabili secondo necessità

Sub-Rack 19" GFP serie Eco

- *I Sub-Rack leggeri ed essenziali fino a 3U*

Queste soluzioni, leggere ed economiche, consentono di effettuare lavorazioni sui pannelli in laminato a costi ridotti rispetto al GFPLIGHT.

La struttura è in alluminio anodizzato naturale, nero o passivato conduttivo.

L'assemblaggio prevede pannelli anteriore e posteriore fissati al corpo del Sub-rack mediante supporti di fissaggio in zama.

Sia i pannelli che le coperture possono essere chiusi o aerati, lavorati a disegno; è possibile aggiungere distanziali per il fissaggio delle schede elettroniche in un contesto di infinite customizzazioni in base al disegno del cliente o alla possibilità di partire dalle schede per progettare e produrre grazie al nostro ufficio tecnico meccanico/elettronico l'intero sistema meccanico, eventualmente anche cablato e montato.

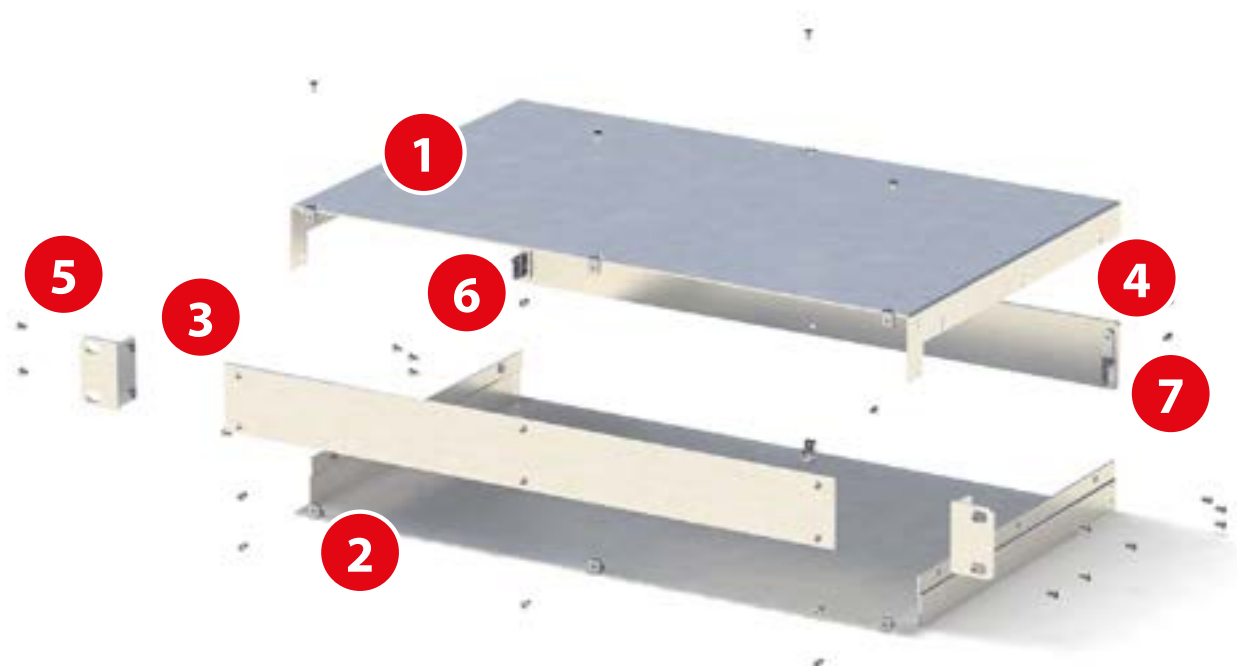
I Sub-Rack di questo tipo possono essere alti

1 U = 43,6 mm (altezza pannelli frontale e posteriore)

2 U = 88,1 mm

3 U = 132,5 mm





Il Kit in schema è composto da:

Pos.	Descrizione	Codice	No.	Pos.	Descrizione	Codice	No.
1	Copertura Superiore ECO	273E195-ES	1	6	Staffetta Posteriore Sinistra 1U	100K002	1
2	Copertura Inferiore ECO	273E195-EI	1	7	Staffetta Posteriore Destra 1U	100K001	1
3	Pannello anteriore 1U 19"	022E195	1		Supporto Fissaggio Pannello	315T004	8
4	Pannello Posteriore 1U 84Te	023E184	1		Viti Fissaggio Coperture/Pannelli	274T000	34
5	Supporto Armadio Sub-Rack ECO 1U	100K003	1				

• Sub-Rack GFP Eco 1U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K195-ECO	213K195-ECO	273K195-ECO	357K195-ECO	441K195-ECO	95	482
Cod.	113K184-ECO	213K184-ECO	273K184-ECO	357K184-ECO	441K184-ECO	84	426
Cod.	113K160-ECO	213K160-ECO	273K160-ECO	357K160-ECO	441K160-ECO	60	304
Cod.	113K142-ECO	213K142-ECO	273K142-ECO	357K142-ECO	441K142-ECO	42	213
Cod.	113K128-ECO	213K128-ECO	273K128-ECO	357K128-ECO	441K128-ECO	28	142

• Sub-Rack GFP Eco 2U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K295-ECO	213K295-ECO	273K295-ECO	357K295-ECO	441K295-ECO	95	482
Cod.	113K284-ECO	213K284-ECO	273K284-ECO	357K284-ECO	441K284-ECO	84	426
Cod.	113K260-ECO	213K260-ECO	273K260-ECO	357K260-ECO	441K260-ECO	60	304
Cod.	113K242-ECO	213K242-ECO	273K242-ECO	357K242-ECO	441K242-ECO	42	213
Cod.	113K228-ECO	213K228-ECO	273K228-ECO	357K228-ECO	441K228-ECO	28	142

• Sub-Rack GFP Eco 3U

	Profondità					Larghezza	
	113 mm	213 mm	273 mm	357 mm	441 mm	TE	mm
Cod.	113K395-ECO	213K395-ECO	273K395-ECO	357K395-ECO	441K395-ECO	95	482
Cod.	113K384-ECO	213K384-ECO	273K384-ECO	357K384-ECO	441K384-ECO	84	426
Cod.	113K360-ECO	213K360-ECO	273K360-ECO	357K360-ECO	441K360-ECO	60	304
Cod.	113K342-ECO	213K342-ECO	273K342-ECO	357K342-ECO	441K342-ECO	42	213
Cod.	113K328-ECO	213K328-ECO	273K328-ECO	357K328-ECO	441K328-ECO	28	142

Pannelli e coperture sono personalizzabili secondo necessità

Custodie 19"

• Presentazione

Una struttura in metallo elettrosaldato colore grigio RAL7035, grigio RAL7032 e nero RAL9005 bucciato profonda mm. 456/355 è il nucleo portante della custodia 19".

La copertura superiore è lavorata per consentire una solida presa di sollevamento anche in presenza di apparecchiature pesanti.

Quella inferiore è dotata di quattro piedini. Le coperture, rigidamente posizionate, sono in alluminio e danno elegante completezza a questo contenitore.

La CUSTODIA 19" di norma è fornita montata e comprende il pannello posteriore in lamiera di acciaio verniciato, spessore 15/10 aerato o chiuso.

In opzione a richiesta è montato un pannello in alluminio ossidato naturale, nero o passivato di spessore mm 3 con eventuali lavorazioni e/o serigrafie.

Le larghezze normalizzate sono tre: 84TE, 60TE, 42TE.

Le altezze sono otto: 15U, 12U, 9U, 6U, 5U, 4U, 3U, 2U.



U	Profondità mm 465		
18	465C1884	465C1860	465C1842
15	465C1584	465C1560	465C1542
12	465C1284	465C1260	465C1242
9	465C984	465C960	465C942
6	465C684	465C660	465C642
5	465C584	465C560	465C542
4	465C484	465C460	465C442
3	465C384	465C360	465C342
2	465C284	465C260	465C242

U	Profondità mm 355		
18	355C1884	355C1860	355C1842
15	355C1584	355C1560	355C1542
12	355C1284	355C1260	355C1242
9	355C984	355C960	355C942
6	355C684	355C660	355C642
5	355C584	355C560	355C542
4	355C484	355C460	355C442
3	355C384	355C360	355C342
2	355C284	355C260	355C242





Sub-Rack 19" GFPRAIL:

Front, rear and center rails Future

There are two extruded channels for self forming M4 screws to mount the rails to the side plates.
 Front and rear rails include incremented holes for mounting of guide rails.
 Center rails do not include incremented holes and are only used for mounting of backplanes, either directly or indirectly, or Z-rails and perforated rails. The center rails are used in 6 U subracks.

• Front rail standard

For mounting plug-in units or front panels

Material: Aluminum extrusion, alodined

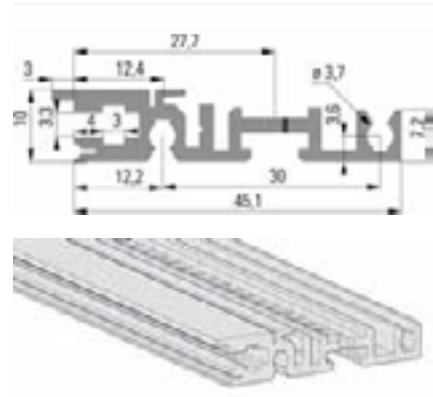
Scope of Delivery: Front rail standard 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

- Horizontal rails are secured with two screw

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 00
84 HP	-	23 10 02 02



• Dual rear rail

*With integrated thread channel M3

Material: Aluminum extrusion, alodined

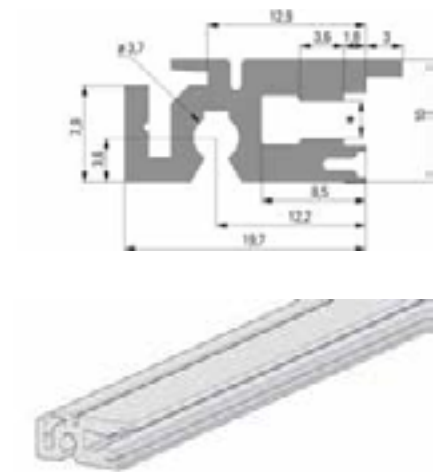
Scope of Delivery: Dual rear rail 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Notes:

- Horizontal rails are secured with one screw
- Required for applications with dual cover plate
- Maximum torque 0.75 Nm (6.6 lbs)

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 09
84 HP	-	23 10 02 11



• Rear rail basic unit E for cover plate

For direct mounting of backplane or perforated rail

Material: Aluminum extrusion, alodined

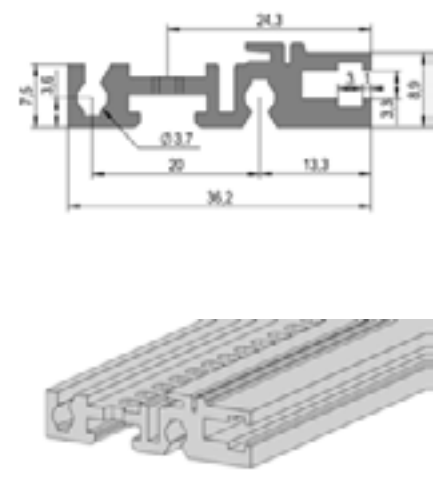
Scope of Delivery: Rear rail basic unit E 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Notes:

- Horizontal rails are secured with two screws on each side
- Only for Eurocards 220 mm
- Required for applications with cover plate

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 30
84 HP	-	23 10 02 32



Sub-Rack 19" GFPRAIL:

Front, rear and center rails Future

• Rear rail basic unit E

For direct mounting of backplane or perforated rail

Material: Aluminum extrusion, alodined

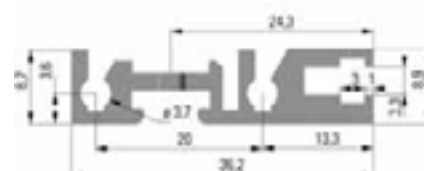
Scope of Delivery: Rear rail basic unit E 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Horizontal rails are secured with two screw

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 21
84 HP	-	23 10 02 23



• Center rail basic unit E

For direct mounting of backplane or perforated rail

Material: Aluminum extrusion, alodined

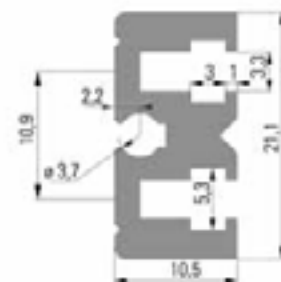
Scope of Delivery: Center rail basic unit E 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Horizontal rails are secured with two screw

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 24
84 HP	-	23 10 02 26



• Rear rail basic unit C

With integrated connector fixation according to IEC 60603-2

Material: Aluminum extrusion, alodined

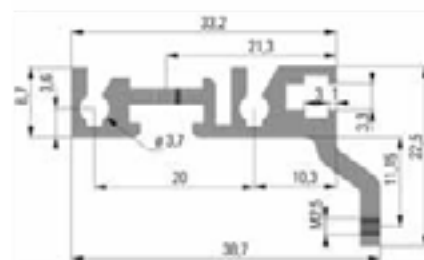
Scope of Delivery: Rear rail basic unit C 1 PU (5 pcs)

Delivery Form: In units for self-assembly

Note:

– Horizontal rails are secured with two screw

W	COD. Anodized	COD. Alodined
42 HP	-	23 10 02 18
84 HP	-	23 10 02 20



Side plates Future

For mounting horizontal rails, mounting brackets, corner brackets and covers.
Dimples on the side plates ease assembly and prevent unwanted torsion of the rails.

• Side plate Future

Depending on the choice of mounting brackets, for configuration of standard Future 19" subracks, EMC spring shielding concept or EMC fabric shielding concept.

Material: Aluminum, 2 mm, alodined

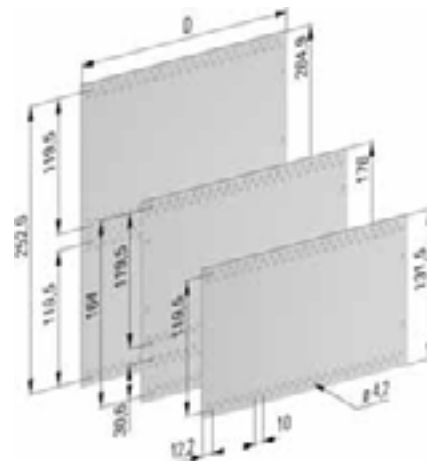
Scope of Delivery: Side plate 1 pc

Delivery Form: In units for self-assembly

Note:

– Horizontal rail mountable in 10-mm increment

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	23 10 01 79	23 10 01 70	23 10 01 73	23 10 01 76
4 U	-	23 10 01 71	23 10 01 74	23 10 01 77
6 U	23 10 01 80	23 10 01 72	23 10 01 75	23 10 01 78



• Side plate Future, tox joined for EMC spring shielding concept

For configurations according to EN 50155 (shock and vibration resistant)

Material: Side plate aluminum, 2 mm, alodined Mounting brackets and corner bracket (3/2 mm) with groove for EMC spring shielding concept, aluminum extrusion, alodined

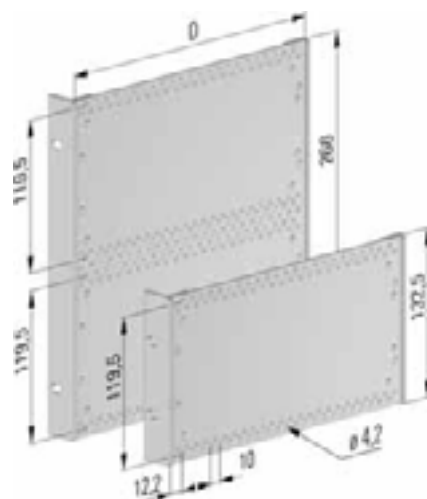
Scope of Delivery: Side plate, mounting bracket and corner bracket, tox joined

Delivery Form: In units for self-assembly

Note:

- Horizontal rails mountable in 10-mm increment
- Horizontal rails must be secured with two screws on each side
- EMC springs must be ordered separately

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	-	23 10 01 90	23 10 01 93	23 10 01 96
6 U	-	23 10 01 92	23 10 01 95	23 10 01 98



• Side plate Future IEEE, rear I/O, euroboard 160/80 mm

For configuration of 19" subracks Future according to IEEE 1101.1/IEEE 1101.10 with Rear I/O (160/80 mm)

Material: Aluminum, 2 mm, alodined

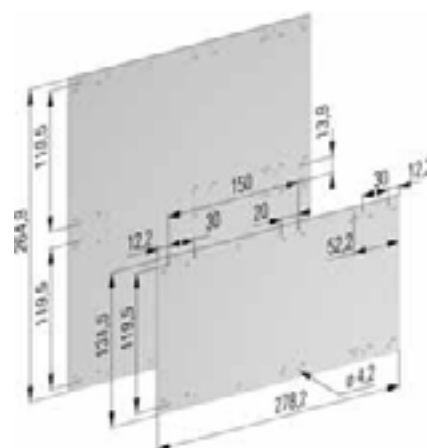
Scope of Delivery: Side plate 1 pc

Delivery Form: In units for self-assembly

Note:

– Horizontal rails can be fixed with two screws

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	-	23 10 01 97	-	-
6 U	-	23 10 01 99	-	-



19" mounting brackets Future

Mounted to the front of the subrack, the brackets enable installation of the subrack in a 19" case or cabinet.
Includes recess for front rail.

• 19" mounting brackets Future, standard

Without groove, upgrade with shielding material not possible.

Either with or without handle holes.

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting brackets without groove 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Handles must be ordered separately

H	Without handle holes	With handle holes
3 U	80 41 10 03	80 41 10 04
4 U	-	-
6 U	80 41 10 08	80 41 10 07



• 19" mounting brackets Future with groove for EMC spring shielding concept

With groove for mounting EMC springs

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting bracket with groove 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– EMC springs must be ordered separately

H	Without handle holes	With handle holes
3 U	23 10 01 60	-
4 U	23 10 01 61	-
6 U	23 10 01 62	-



• 19" mounting brackets Future with bar for EMC fabric shielding concept

With bar for mounting self adhesive EMC fabric D shape

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting bracket with bar 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– EMC fabrics D shape must be ordered separately

H	Without handle holes	With handle holes
3 U	23 11 01 60	-
4 U	-	-
6 U	23 11 01 61	-



Corner brackets Future

For facing the rear of the subrack. Includes recess for front rail.
 The total depth of the subrack expands by 3 mm with the corner brackets assembled.

- Corner bracket Future, standard**

Without groove, upgrade with shielding material not possible.
Material: Aluminum extrusion, alodined
Scope of Delivery: Corner bracket without groove 1 PU (10 pcs)
Delivery Form: In units for self assembly

H	Variant without groove
3 U	80 41 10 20
4 U	-
6 U	80 41 10 21



- Corner bracket Future with groove for EMC spring shielding concept**

With groove for mounting EMC springs
Material: Aluminum extrusion, alodined
Scope of Delivery: Corner bracket with groove 1 PU (10 pcs)
Delivery Form: In units for self-assembly

Note:
 – EMC springs must be ordered separately

H	Variant with groove
3 U	23 10 01 65
4 U	23 10 01 66
6 U	23 10 01 67



- Corner bracket Future with bar for EMC fabric shielding concept**

With bar for mounting self-adhesive EMC fabric D shape
Material: Aluminum extrusion, alodined
Scope of Delivery: Corner bracket with bar 1 PU (10 pcs)
Delivery Form: In units for self-assembly

Note:
 – EMC fabrics D shape must be ordered separately

H	Variant with bar
3 U	23 11 01 65
4 U	-
6 U	23 11 01 67



Cover plates

Cover plates mechanically protect the built-in components and/or protect against electromagnetic interference. The perforation in the cover plates ensures adequate ventilation of the electronics.

• Cover plate – Future

- For covering the card cage
- Mounting and shielding with self-clipping contact clips
- Vibration resistance can be enhanced by additionally screwing the contact clips to the side plate
- Perforation Rv4-5, air through put 58%
- $W1 = W + 4 \text{ mm}$

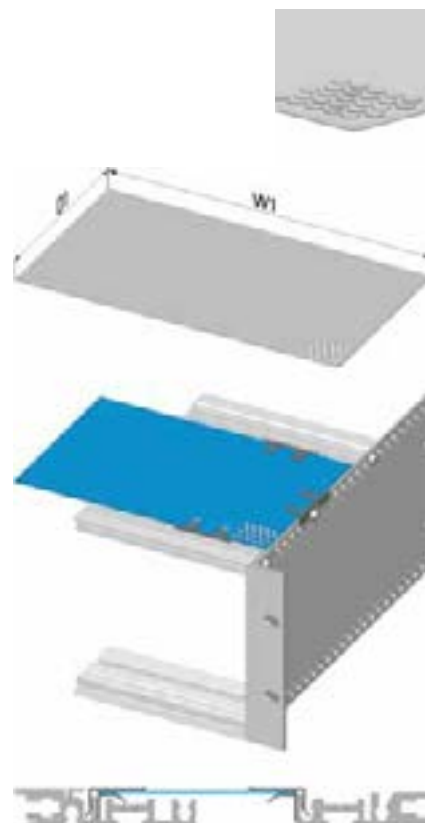
Material: Aluminum 1 mm, alodined

Scope of Delivery: Cover plate 1 pc

Delivery Form: In units for self-assembly

Note: – Contact clips for cover plate must be ordered separately

W	Card depth = 160 mm D1 = 119 mm	Card depth = 220 mm D1 = 179 mm
42 HP	23 10 02 40	23 10 02 42
84 HP	23 10 02 41	23 10 02 43



• Cover plate dual – Future

- For covering the entire depth (D)
- Mounting and shielding with self-clipping contact clips
- Vibration resistance can be enhanced by additionally screwing the contact clips to the side plate
- Perforation Rv4-5, air through put 58%

Material: Aluminum 1 mm, alodined

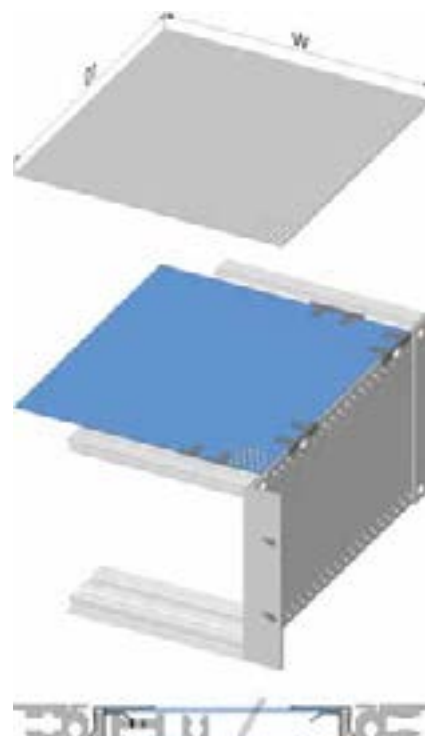
Scope of Delivery: Cover plate 1 pc

Delivery Form: In units for self-assembly

Note:

- Can only be used in combination with rear rail with integrated thread groove
- Contact clips for cover plate must be ordered separately

W	D = 244 mm D1 = D - 39.7 mm	D = 304 mm D1 = D - 39.7 mm	D = 364 mm D1 = D - 39.7 mm
42 HP	23 10 02 44	23 10 02 46	23 10 02 48
84 HP	23 10 02 45	23 10 02 47	23 10 02 49



Cover plates

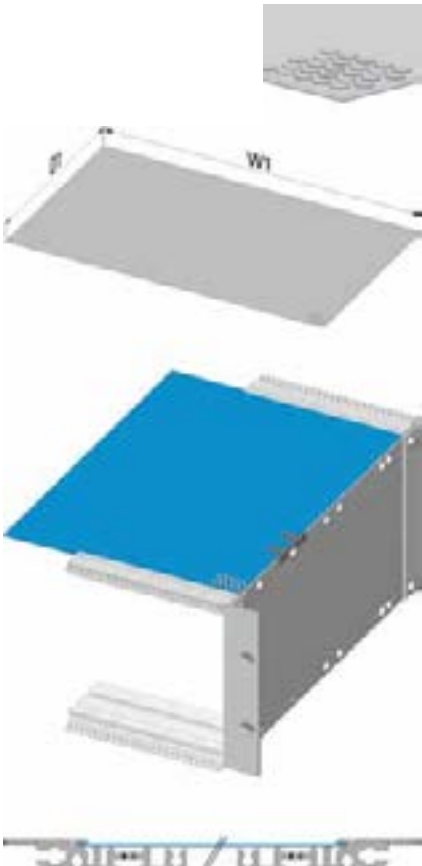
• Cover plate dual II – Future

- For covering the entire depth (D)
- Covers slide into the grooves of the horizontal front rails
- Mounting and shielding with self-clipping contact clips
- Vibration resistance can be enhanced by additionally screwing the contact clips to the side plate
- Perforation Rv4-5, air through put 58%
- $W1 = W + 4 \text{ mm}$
- Material:** Aluminum 1 mm, alodined
- Scope of Delivery:** Cover plate 1 pc
- Delivery Form:** In units for self-assembly

Note:

- Depicted side view shows application with IEEE rails (Rear I/O 160/80)
- Contact clips for cover plate must be ordered separately

		D = 278 mm		
W	D = 244 mm	D1 = 252.9 mm	D = 304 mm	D = 364 mm
		(Rear I/O 160/80)		
84 HP	23 10 02 81	23 10 02 80	23 10 02 82	23 10 02 83

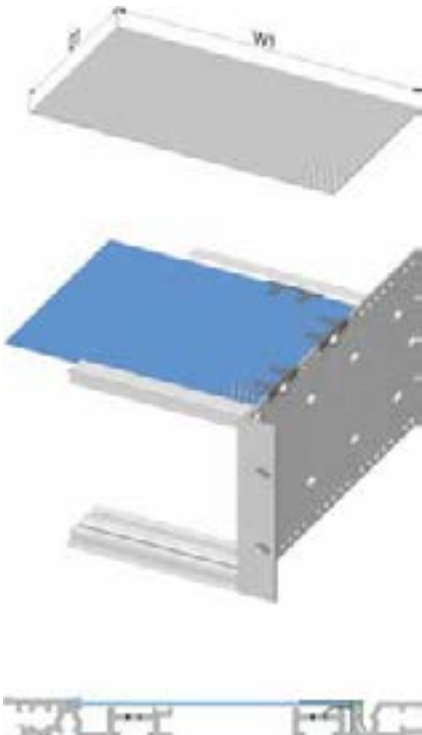


• Cover plate – FutureX

- For covering the card cage
- Mounting and shielding with self-clipping contact clips
- Vibration resistance can be enhanced by additionally screwing the contact clips to the side plate
- Perforation Rv4-5, air through put 58%
- $W1 = W + 4 \text{ mm}$
- Material:** Aluminum 1 mm, alodined
- Scope of Delivery:** Cover plate 1 pc
- Delivery Form:** In units for self-assembly

Note: – Contact clips for cover plate must be ordered separately

W	Card depth = 160 mm D1 = 146.3 mm	Card depth = 220 mm D1 = 206.3 mm
42 HP	23 10 02 72	23 10 02 74
84 HP	23 10 02 73	23 10 02 75



☐ RACK
☐ POOL



Technical drawing of a handle with dimensions: 81, 5, 57, 71.6.

Delivery Form: In units for self-assembly

H	H1	H2	D1	Order no.
2 U	55.0 mm	69.0 mm	40 mm	79 36 00 00
3U	88.0 mm	102.0 mm	40 mm	79 36 01 00
-	120.0 mm	134.0 mm	40 mm	79 36 03 00
4U	133.5 mm	147.5 mm	40 mm	79 36 05 00
5U	180.0 mm	194.0 mm	40 mm	79 36 04 00
6/9U	235.0 mm	249.0 mm	40 mm	79 36 02 00

FRONT PANELS

● // Application

Our front panel program enables you to customassemble your product using a variety of options.

We offer an extensive portfolio of products ranging from partial front panels, front panels for plug-in-modules with various handle options and for various stability and shielding requirements to 19" front panels.

Cutouts, color coating and inscriptions can be added at any time in accordance with your individual requirements.

● // Configuration example

The diagram shows a typical front panel assembly using the example of a front panel for plug-in-modules

- 1 Front panel
- 2 Metal sleeve*
- 3 Collar screw*
- 4 Cylinder head screw*
- 5 Hexagon nut*
- 6 Board holder*
- 7 Countersunk head screw*
- 8 Handle*
- 9 Identification plate*

Parts marked with * are not included in the scope of delivery of the basic unit, i.e. must be ordered separately.

● // Notes on standards, units of measurement and mounting / overall dimensions

Inner and outer dimensions

- IEC 60297-3-101
- IEC 60297-3-102
- IEC 60297-3-103
- IEEE 1101.11

Unit of height U

Measurement unit for height in 19" rack systems

1 U = 44.45 mm

Increment unit HP

Measurement unit for width in 19" rack systems

1 HP = 5.08 mm

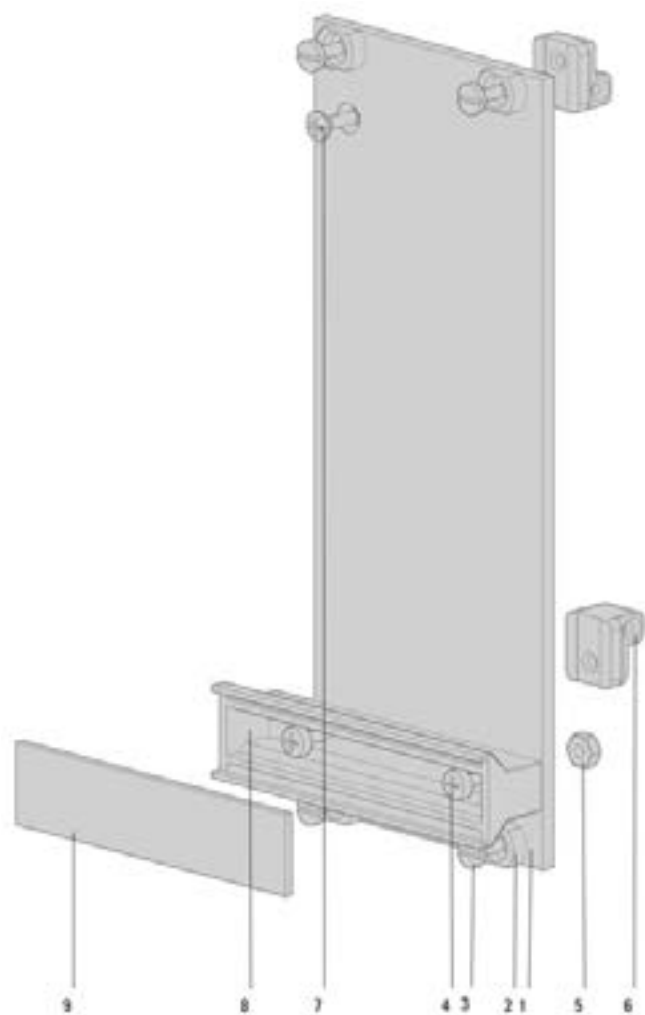
Dimensions specified in ordering tables

The dimensions, in particular those given in U and HP, are specified in relation to the application:

Height $H = (n(U) \times 44.45 \text{ mm}) - 4.8 \text{ mm}$

Usable width $W = (n(HP) \times 0.3 \text{ mm})$

The depth D (in mm) indicates the total depth of the case without handles, connectors, etc.



Cover plates

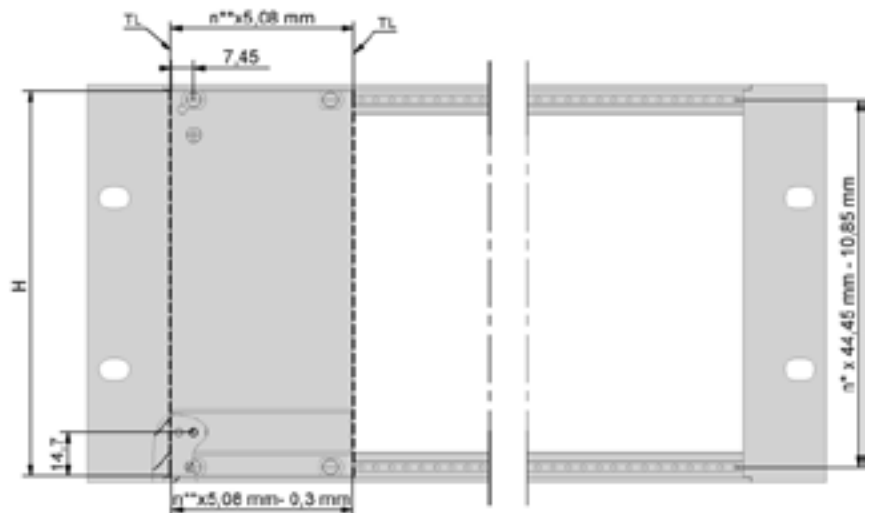
• Mounting dimensions (mm)

	H
3 U	= 128.5
4U	= 173.0
6U	= 261.9

* (U)

** (HP)

TL (partition line)



• Dimensions for plug-in modules (mm)

D1*	D2 ± 0.4**	D3 ± 0.4***	D4 ± 0.4****
80.00	89.93	91.93	91.74
100.00	109.93	111.93	111.74
160.00	169.93	171.93	171.74
220.00	229.93	231.93	231.74
280.00	289.93	291.93	291.74

* PCB depth

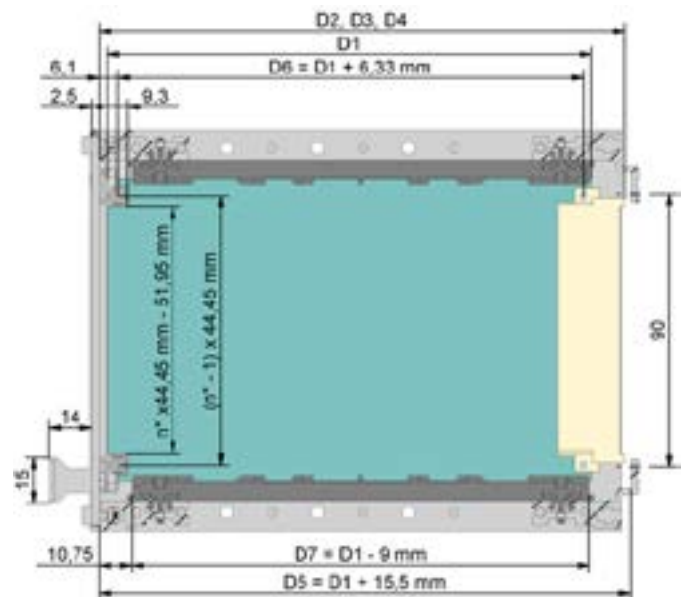
** Insertion depth for IEC 60603-2 connectors, styles B, C, D and IEC 61076-4-113

*** Insertion depth for IEC 60603-2 connectors, styles F, G, H

**** Insertion depth for IEC 61076-4-101 connectors

D = overall depth

D5 = mounting depth in 19" rack



• // Manufacturing tolerances

All parts are subject to POLYRACK's factory specifications, whereby:
Extrusion specifications comply with DIN EN 12020-1

Punched parts comply with DIN ISO 6930-1/6930-2 and DIN 6932

Plastic parts comply with DIN 16742

- Assembly hardware must be ordered separately

A perspective view of a rectangular plate, likely a cover or a component, showing four corner fasteners (screws or bolts) used for mounting. The plate is light gray and the fasteners are dark.

• Front panel, Future

Material: Aluminum 2.5 mm, front anodized / rear alodined

Scope of delivery: Front panel 1 pc

Delivery form: In units for self-assembly

Note:

– Assembly hardware must be ordered separately

U	HP	Order no.
3 U	4 HP	23 10 03 00
3 U	6 HP	23 10 03 01
3 U	8 HP	23 10 03 02
3 U	10 HP	23 10 03 03
3 U	12 HP	23 10 03 04
3 U	42 HP	23 10 03 05
3 U	84 HP	23 10 03 07
6 U	4 HP	23 10 03 08
6 U	6 HP	23 10 03 09
6 U	8 HP	23 10 03 10
6 U	10 HP	23 10 03 11
6 U	12 HP	23 10 03 12
6 U	42 HP	23 10 03 13
6 U	84 HP	23 10 03 15



• Front panel, U extrusion

Material: Aluminum extrusion, front anodized / rear alodined

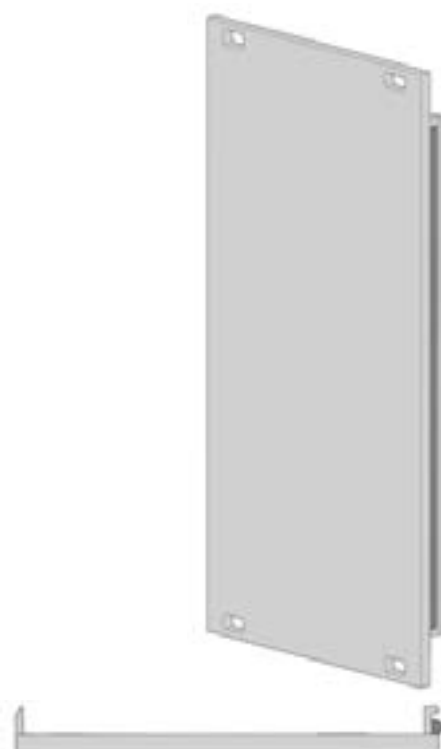
Scope of Delivery: U extrusion front panel 1 pc

Delivery Form: In units for self-assembly

Note:

– Assembly hardware must be ordered separately

U	HP	Order no.
3 U	4 HP	23 10 08 00
3 U	6 HP	23 10 08 01
3 U	8 HP	23 10 08 02
3 U	10 HP	23 10 08 03
3 U	12 HP	23 10 08 04
6 U	4 HP	23 10 08 20
6 U	6 HP	23 10 08 21
6 U	8 HP	23 10 08 22
6 U	10 HP	23 10 08 23
6 U	12 HP	23 10 03 24



Front Panels

• Front panel, bottom-hinged / side-hinged with hinge extrusion

Material: Aluminum 2.5 mm, surface anodized / cutting edges raw, hinge parts aluminum anodized

Scope of Delivery: Front panel 1 pc Hinge parts with assembly hardware 1 pc

Delivery Form: In units for self-assembly

Note:

– Assembly hardware must be ordered separately



U	HP	Bottom-hinged	Side-hinged
3 U	42 HP	79 00 00 91	79 00 00 67
3 U	63 HP	79 00 00 95	79 00 00 71
3 U	84 HP	79 00 00 99	79 00 00 75
6 U	42 HP	79 00 01 03	79 00 00 79
6 U	63 HP	79 00 01 07	79 00 00 83
6 U	84 HP	79 00 01 11	79 00 00 87

• Front panel, bottom-hinged / side-hinged with hinge element

Material: Aluminum 2.5 mm, hinge parts PA 6

Scope of delivery

Front panel, bottom-hinged:

Front panel 1 pc

Hinge element top 1 pc

Hinge element bottom 1 pc

Hinge joint 2 pcs

Assembly hardware for hinge elements 1 pc

Front panel, side-hinged:

Front panel 1 pc

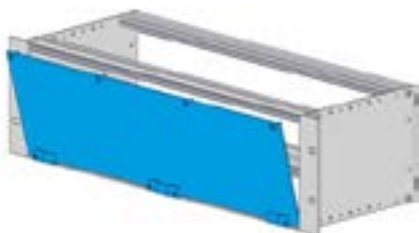
Hinge element top 1 pc

Hinge element bottom 1 pc

Hinge joint 2 pcs

Assembly hardware for hinge elements 1 pc

Delivery form: In units for self-assembly



Note:

– Can only be used in combination with rear rail with integrated thread groove

– Contact clips for cover plate must be ordered separately

U	HP	Bottom-hinged, anodized cutting edges raw	Bottom-hinged, front anodized, rear alodined	Side-hinged anodized/cutting edges raw	Side-hinged, front anodized, rear alodined
3U	84 HP	79 23 50 00	79 23 50 01	79 23 50 02	79 23 50 03
6U	84 HP	79 23 50 10	79 23 50 11	79 23 50 12	79 23 50 13

Accessories

• Card guide EK 80 mm – Future

For board depth 80 mm or for Rear I/O applications according to IEEE 1101.1/IEEE 1101.10

Material: PPO

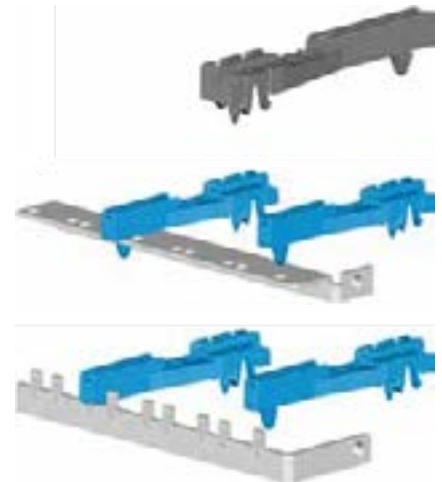
Scope of Delivery: Card guide, 1 set (top/bottom) 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Notes:

- Can in addition be secured with screws
- Mounting of EMC springs possible
- Board holder for Rear I/O applications required (see below)

Card depth	Groove width	Color	Standard	Heavy duty version
80 mm	2.0 mm	Black	23 10 04 42	-



• Board holder Rear I/O EK 80 mm – Future

Board depth 80 mm for Rear I/O applications according to IEEE 1101.1/IEEE 1101.10

The Board holder is available in 2 versions:

- Type 1 card guides are clipped in (suitable for heavy modules)
- Type 2 card guides are suspended (enhances air flow)

Material: Aluminum 1.5 mm, raw

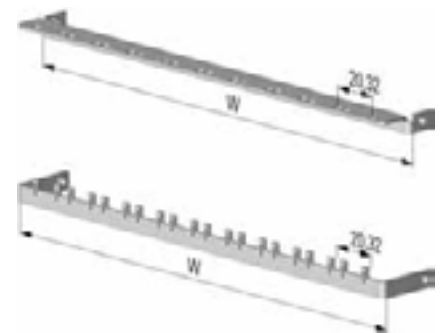
Scope of Delivery: Board holder 1 pc

Delivery Form: In units for self-assembly

Note:

- Only for EB 80 mm card guide
- Can only be used in connection with side plate Future IEEE, Rear I/O application
- Card guides can be mounted in 4 HP increments
- Assembly components are included in assembly kit 19" subrack Future IEEE, Rear I/O

Card depth	Groove width	Color	Standard	Heavy duty version
80 mm	2.0 mm	84 HP	23 10 02 81	23 10 02 82



• Card guide – Future/FutureX

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

- Can in addition be secured with screws
- Mounting of EMC springs possible

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Black	23 10 04 29	23 10 04 02
160 mm	2.0 mm	Grey	23 10 04 34	-
160 mm	2.4 mm	Black	-	23 10 04 43
220 mm	2.0 mm	Black	-	23 10 04 03



Accessories

• Card guide *Al-Rail – Future/FutureX*

Material: Aluminum rail ALMgSi 0.5 raw

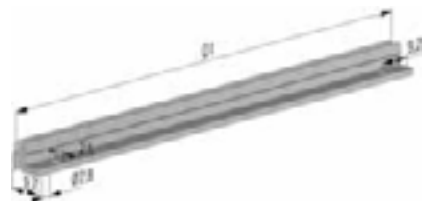
Scope of Delivery: Card guide rail 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– Can only be secured with screws

Card depth	Groove width	D1	Standard	Heavy duty version
220 mm	2.0 mm	202 mm	-	23 10 04 40
280 mm	2.0 mm	262 mm	-	23 10 04 41



• Card guide *EK 280 mm – FutureX*

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self- assembly

Note:

– Can only be clipped into position

Card depth	Groove width	Color	Standard	Heavy duty version
280 mm	2.0 mm	Black	-	23 10 04 37



• Card guide *4.4" – FutureX/Series 75/76/77*

For board height 4.4" (111.7 mm)

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– Can only be clipped into position

Card depth	Groove width	Series	Color	Standard	Heavy duty version
160 mm	2.0 mm	FutureX	Black	79 31 05 00	-
220 mm	2.0 mm	FutureX	Black	79 31 06 00	-
160 mm	2.0 mm	Series 75/76/77	Black	79 31 03 00	-



• Card guide *1/2 HP/IEEE – FerroRAIL*

For mounting in 1/2 HP offset according to IEEE 1101.1/IEEE 1101.10 applications.

For mounting Compact PCI power supplies and SMD plug-in modules.

Material: PC

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– Can in addition be secured with screws

– Mounting of EMC springs possible

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Green	23 10 04 38	-



• Card guide – FerroRAIL

Material: PC

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

- Can in addition be secured with screws
- Mounting of EMC springs possible

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Grey	-	23 10 04 04
220 mm	2.0 mm	Grey	-	23 10 04 05



• Card guide – Series 75/76/77

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

- Screw-on heavy-duty version
- Mounting of EMC springs only possible with heavy-duty version

Card depth	Groove width	Color	Standard	Heavy duty version
100 mm	2.0 mm	Black	79 31 40 00	-
160 mm	2.0 mm	Black	79 31 00 00	79 31 04 00
220 mm	2.0 mm	Black	-	79 31 12 00



• Card grid – Series 75/76/77

Card grid, 7-fold in 4-HP increments

Material: PPO

Scope of Delivery: Card grid 1 PU (25 pcs)

Delivery Form: In units for self-assembly

Note:

- Can only be clipped into position

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Black	79 31 91 00	-



• Card guide, 3-piece

3-piece card guide for individual board depth

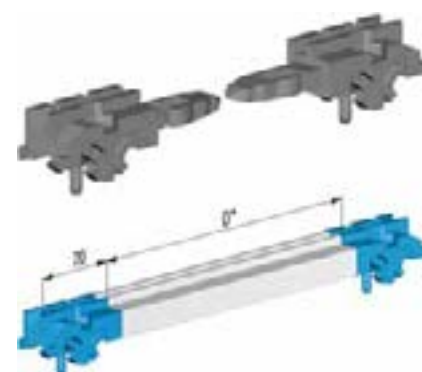
Material/Scope of Delivery: See ordering table

Delivery Form: In units for self-assembly

Note:

- End pieces can in addition be secured with screws
- Not possible to mount EMC springs

Version	Groove width	Material	Color	Scope of Delivery	Order no.
End pieces (pair)	2.0 mm	PPO	Black	1 PU (50 pair)	79 31 62 00
Card guide rail	2.0 mm	Aluminum	Anodized	2750 mm	90 16 00 00
Card guide rail	2.0 mm	ABS	Black	2750 mm	90 42 40 01



EMC/ESD shielding material

To ensure that the electronic products function satisfactorily in their electromagnetic environment, i.e. to guarantee the electromagnetic compatibility (EMC) of the products, shielding material is required subject to the electronics and the ambient conditions. Shielding material EMC springs / gaskets are used to establish contact with mechanical components and thus protect plug-in units and electronics against radio frequency interference. ESD springs / screws are used to discharge static electricity ("ESD" is abbreviation for "electrostatic discharge").

• ESD spring

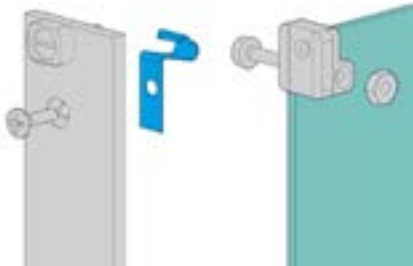
Material:
Copper-beryllium

Scope of Delivery:
ESD spring 1 pc

Order no.
79 21 70 02

Delivery Form:
In units for self-assembly

Note:
– is screwed to board holder.



• EMC spring

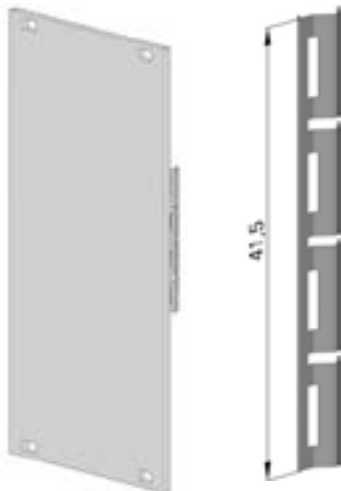
Is inserted into the groove in the mounting bracket, corner bracket or front panel using a tool. Can be used left or right

Material:
Spring steel 0.3 mm

Scope of Delivery:
EMC spring 1 PU (50 pcs)
Mounting aid (optional) 1 pc

Delivery Form:
In units for self-assembly

Note:
– The number of springs can be determined on an individual basis subject to the degree of shielding required.



Version	Order no
EMC Spring	23 10 04 24
Mounting aid	23 10 04 28

• EMC shielding fabric

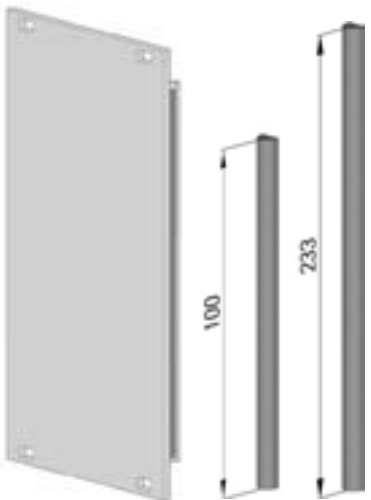
EMC shielding D is affixed to the edge of the mounting bracket, corner bracket or front panel. Can be used left or right.

Material
Conductive fabric, 1.5 x 2 mm, CuNi coated

Scope of delivery
EMC shielding fabric 1 PU (10 pcs)
by length (L = 1000 mm) 1 pc

Delivery form
In units for self-assembly

Notes
– Single sided adhesive (peel-off film)
– Thermal resistance: -40°C to +100°C
– Fire resistance rating: UL 94V0



H	Order no
3U	23 10 04 30
6U	23 10 04 31
by length (1000 mm)	23 10 04 32



Product information

The Future series is designed for different shielding concepts and applications and can be individually configured.

The securing of the stable rails with two screws as well as the tox joined version of the side plates allows the use of the subrack in harsh environments (vibration resistance).

The positioning of the rails in the 10-mm increments permits dual mounting.

Notes:

- “Vibration resistant” version: LES-DB of Deutsche Bahn (German Rail) compliant
- “IEEE” version: Front rail(s) with pitch hole pattern according to IEEE 1101.10



Basic units	H in U			W in HP		D in mm			
Basic units	3	4	6	84	180	244	378	304	364
- Standard	●	-	●	●	●	●	-	●	●
- Vibration resistant	●	-	●	●	-	●	-	●	●
- Vibration resistant, EMC spring shielding concept	●	-	●	●	-	●	-	●	●
- IEEE, EMC fabric shielding concept	●	●	●	●	●*	●	-	●	●
- Rear I/O 160/80, EMC fabric shielding concept	●	-	●	●	-	-	●	-	-

* 4 U not available

Single components

Side plates
Horizontal rails
19" mounting brackets
Corner brackets

Accessories

Threaded inserts	
Card guides	Please check series reference
Board retainers	Please check series reference
Isolating strips	
Z-rails	
Perforated rails	
Covers	Please check series reference
Protective hoods	Please check series reference
Coding blocks and coding pins IEEE	
EMC/ESD shielding material	Please check concept
Handles	
Accessories	Please check series reference
Split vertical PCB mount	
Horizontal PCB mount	

Front, rear and center rails Future

• Front rail IEEE

For mounting plug-in units according to IEEE 1101.1/IEEE 1101.10

Material: Aluminum extrusion, alodined

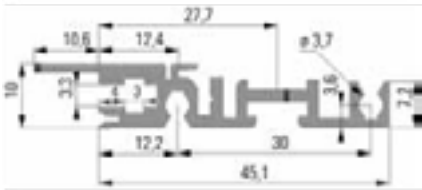
Scope of Delivery: Front rail IEEE 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

- Horizontal rails are secured with two screws
- Corners notched

W	Anodized	Anodized
42 HP	-	23 10 02 06
84 HP	-	23 10 02 08



• Rear rail basic unit B

For mounting backplane (indirectly) or Z-rail

Material: Aluminum extrusion, alodined

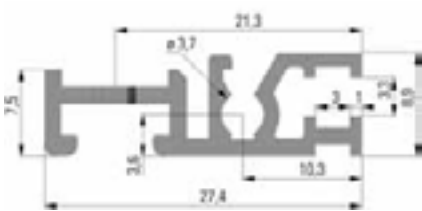
Scope of Delivery: Rear rail basic unit B 1 PU (10 pcs)

Delivery Form: In units for self- assembly

Note:

- Can only be clipped into position

W	Anodized	Anodized
42 HP	-	23 10 02 27
84 HP	-	23 10 02 29

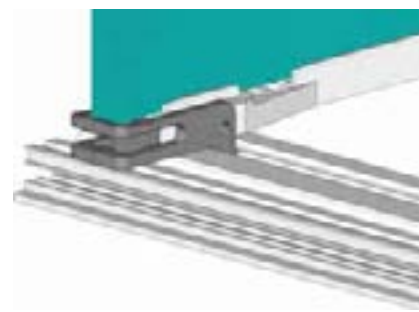


Front, rear and center rails Future

Board retainers are used to secure the boards in the subrack, typically in applications without front panel

Note:

- Fire protection classification
PC: NF F 16-101/102 class F1, I2
PPO: UL 94 V0



• Board extractor

Used singly

Material

PC

Delivery Form

In units for self assembly

Notes

- Mounting either bottom or top board extractor
- Board extractor and board retainers can be used in combination



Order no.

79 3115100

• Board retainer Series 83/84

Used singly

Material

See ordering table

Delivery Form

In units for self assembly

Scope of Delivery

Board retainer 1 PU (50 pcs)



Series	Color	Material	Order no.
Series 83/84	Black	PPO	79 31 53 00

• PB locking rail

Enables interlocking of all assembled plug-in boards

Delivery Form

In units for self assembly

Material

Aluminum extrusion, anodized/cutting edges raw

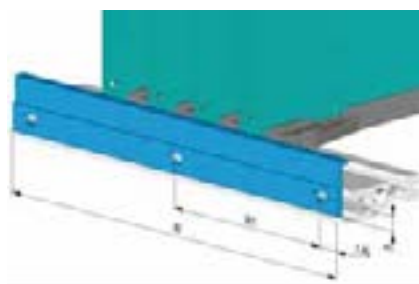
Notes

- Can be mounted on all 19" subracks
- Sleeve hole (W1 = 215.8 mm) only at 84 HP

Scope of Delivery

PB locking rail 1 pc
Assembly kit Type A 1 pc
Rail (L = 2700 mm) 1 pc
Cylindrical pin 1 pc

W	Order no.
42 HP	90 11 11 00
63 HP	90 11 13 00
84 HP	90 11 12 00
2700 mm	90 11 10 00



Threaded inserts

For mounting plug-in modules and backplanes to horizontal rails.

- *Threaded inserts*

Material: Steel 5 x 2 mm, white zinc plated

Scope of Delivery: Threaded insert 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Choice of M2.5 or M3 thread

W	Thread M2.5	Thread M3
20 HP	79 32 18 00	79 33 18 00
42 HP	79 32 14 00	79 33 14 00
63 HP	79 32 16 00	79 33 16 00
84 HP	79 32 17 00	79 33 17 00



Isolating strips

Enable isolated mounting of the backplane to the rear rail B and set the standard insert depth.
Mounting clips secure the isolating strips.

- *Isolating strips*

Material: ABS

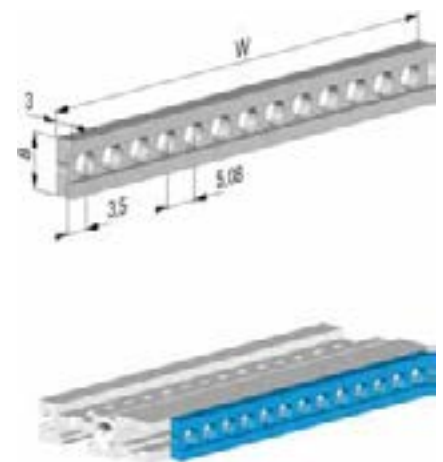
Scope of Delivery: Isolating strip 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Fire protection classification UL 94 V0

W	Color	Order no.
20 HP	Grey	79 38 04 00
42 HP	Grey	79 38 01 00
63 HP	Grey	79 38 03 00
84 HP	Grey	79 38 02 00



- *Mounting clips for isolating strips*

For positioning and securing the isolating strips and threaded inserts

Material: ABS

Scope of Delivery: Mounting clip 1 PU (100 pcs)

Delivery Form: In units for self-assembly

Note:

– Fire protection classification UL 94 V0

Color	Order no
Grey	79 51 50 00



Side plates Future

For mounting horizontal rails, mounting brackets, corner brackets and covers.
Dimples on the side plates ease assembly and prevent unwanted torsion of the rails.

- *Side plate Future*

Depending on the choice of mounting brackets, for configuration of standard Future 19" subracks, EMC spring shielding concept or EMC fabric shielding concept.

Material: Aluminum, 2 mm, alodined

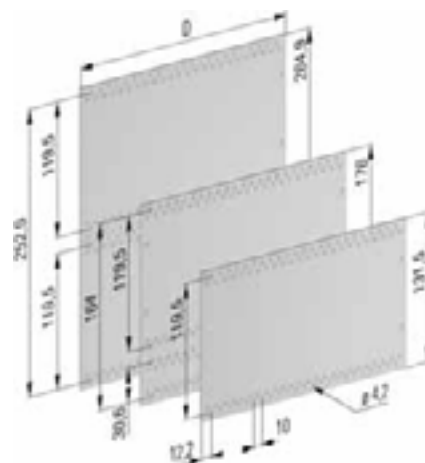
Scope of Delivery: Side plate 1 pc

Delivery Form: In units for self-assembly

Note:

- Horizontal rail mountable in 10-mm increment

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	23 10 01 79	23 10 01 70	23 10 01 73	23 10 01 76
4 U	-	23 10 01 71	23 10 01 74	23 10 01 77
6 U	23 10 01 80	23 10 01 72	23 10 01 75	23 10 01 78



- Side plate Future, tox joined for EMC spring shielding concept

For configurations according to EN 50155 (shock and vibration resistant)

Material: Side plate aluminum, 2 mm, alodined Mounting brackets and corner bracket (3/2 mm) with groove for EMC spring shielding concept, aluminum extrusion, alodined

Scope of Delivery: Side plate, mounting bracket and corner bracket, tox joined

Delivery Form: In units for self-assembly

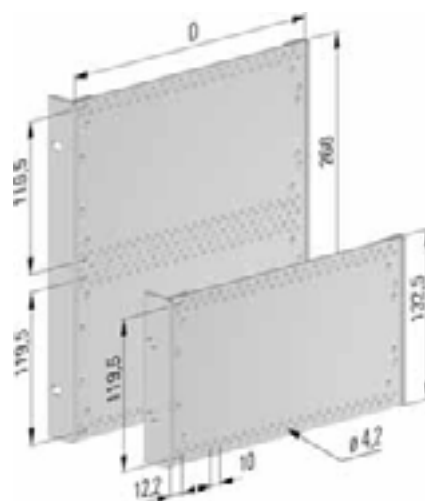
Note:

- Horizontal rails mountable in 10-mm increment

- Horizontal rails must be secured with two screws on each side

- EMC springs must be ordered separately

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	-	23 10 01 90	23 10 01 93	23 10 01 96
6 U	-	23 10 01 92	23 10 01 95	23 10 01 98



- *Side plate Future IEEE, rear I/O, euroboard 160/80 mm*

For configuration of 19" sub racks Future according to IEEE 1101.1/IEEE 1101.10 with Rear I/O (160/80 mm)

Material: Aluminum, 2 mm, alodined

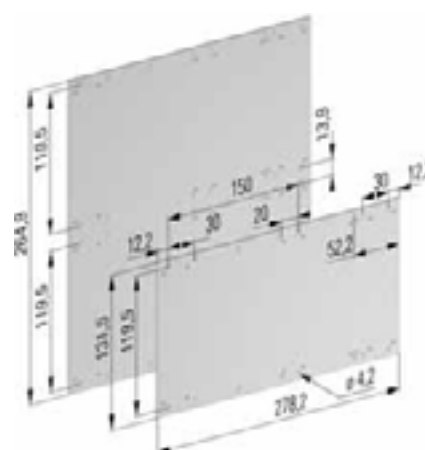
Scope of Delivery: Side plate 1 pc

Delivery Form: In units for self-assembly

Note:

- Horizontal rails can be fixed with two screws

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	-	23 10 01 97	-	-
6 U	-	23 10 01 99	-	-



Side plates FutureX

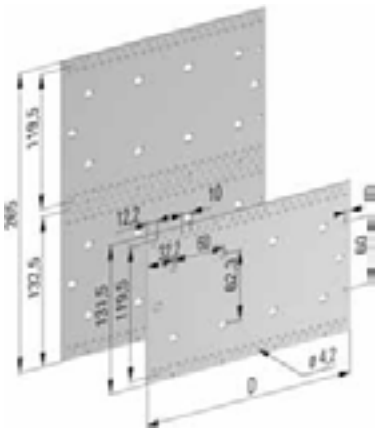
For mounting horizontal rails, mounting brackets, corner brackets and covers.
Dimples on the side plates ease assembly and prevent unwanted torsion of the rails.

- Side plate *FutureX*

Material: Aluminum, 2 mm, alodined
Scope of Delivery: Side plate 1 pc
Delivery Form: In units for self-assembly

Note:
– Horizontal rails mountable in 10-mm increment
– Insert nuts must be ordered separately

H	D = 180 mm	D = 244 mm	D = 304 mm	D = 364 mm
3 U	23 11 02 34	23 11 02 35	23 11 02 36	23 11 02 37
6 U	23 11 02 38	23 11 02 39	23 11 02 40	23 11 02 41



19" mounting brackets Future

Mounted to the front of the subrack, the brackets enable installation of the subrack in a 19" case or cabinet. Includes recess for front rail.

• 19" mounting brackets Future, standard

Without groove, upgrade with shielding material not possible.

Either with or without handle holes

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting brackets without groove 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– Handles must be ordered separately

H	Without handle holes	With handle holes
3 U	80 41 10 03	80 41 10 04
4 U	-	-
6 U	80 41 10 08	80 41 10 07



• 19" mounting brackets Future with groove for EMC spring shielding concept

With groove for mounting EMC springs

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting bracket with groove 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– EMC springs must be ordered separately

H	Without handle holes	With handle holes
3 U	23 10 01 60	-
4 U	23 10 01 61	-
6 U	23 10 01 62	-



• 19" mounting brackets Future with bar for EMC fabric shielding concept

With bar for mounting self adhesive EMC fabric D shape

Material: Aluminum extrusion, alodined

Scope of Delivery: Mounting bracket with bar 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

– EMC fabrics D shape must be ordered separately

H	Without handle holes	With handle holes
3 U	23 11 01 60	-
4 U	-	-
6 U	23 11 01 61	-



Cover plates

Cover plates mechanically protect the built-in components and/or protect against electromagnetic interference. The perforation in the cover plates ensures adequate ventilation of the electronics.

• Handle – Future/FutureX, Series 75/76/77

Suitable for 19" subracks

Material: Aluminum extrusion, anodized

Scope of Delivery:

Handle 1 pc

Assembly kit 1 pc

Delivery Form: In units for self-assembly

H	H1	H2	D1	Order no.
2 U	55.0 mm	69.0 mm	40 mm	79 36 00 00
3U	88.0 mm	102.0 mm	40 mm	79 36 01 00
-	120.0 mm	134.0 mm	40 mm	79 36 03 00
4U	133.5 mm	147.5 mm	40 mm	79 36 05 00
5U	180.0 mm	194.0 mm	40 mm	79 36 04 00
6/9U	235.0 mm	249.0 mm	40 mm	79 36 02 00



• Cover plate – FutureX

– For covering the card cage

– Mounting and shielding with self-clipping contact clips

– Vibration resistance can be enhanced by additionally screwing the contact clips to the side plate

– Perforation Rv4-5, air through put 58%

$W1 = W + 4 \text{ mm}$

Material: Aluminum 1 mm, alodined

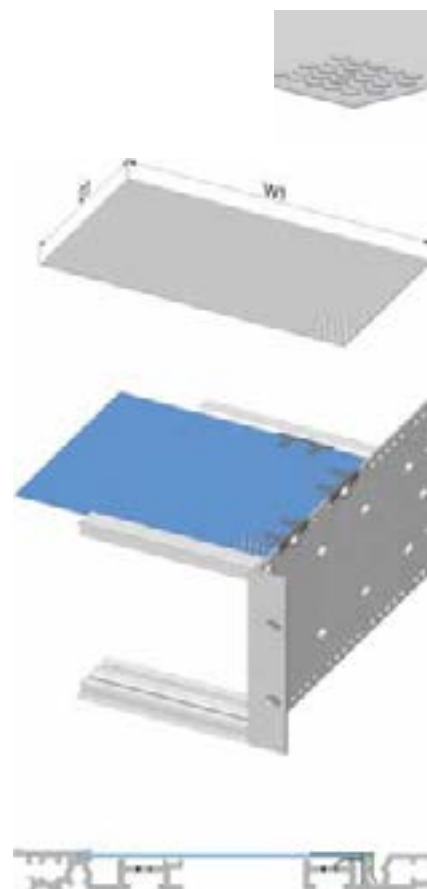
Scope of Delivery: Cover plate 1 pc

Delivery Form: In units for self-assembly

Note:

– Contact clips for cover plate must be ordered separately

W	Card depth = 160 mm D1 = 146.3 mm	Card depth = 220 mm D1 = 206.3 mm
42 HP	23 10 02 72	23 10 02 74
84 HP	23 10 02 73	23 10 02 75



Coding elements

Coding elements are used for labeling slots or subracks in order to prevent mistakes and hence protect the electronicz.

- Mounting block for coding pins – Future/FerroRAIL

For mounting coding pins used in IEEE applications and, in conjunction with the EMC spring, to provide contact of the board to the horizontal front rail.

Material: See ordering table

Scope of Delivery: Coding block 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Notes

- Is mounted in the horizontal front rail in front of the card guide
- Can be used in 4 HP increments
- EMC spring can be mounted
- Fire protection classification

PC: NF F 16-101/102 class F1, I2

PPO: UL 94 V0

Position	Color	Material	Order no.
Top	Black	PPO	23 10 01 50
Top	Red	PPO	23 10 04 35
Top	Grey	PC	23 10 04 06
Top	Green	PC	23 10 04 08
Bottom	Black	PPO	23 10 01 51
Bottom	Red	PPO	23 10 04 36
Bottom	Grey	PC	23 10 04 07
Bottom	Green	PC	23 10 04 09



- Coding pins IEEE – Future/FerroRAIL

Coding pins are mounted to the coding block to prevent mistakes in plugging the slots.

Material: PA

Scope of Delivery: Coding pin IEEE 1 PU (50 pcs)

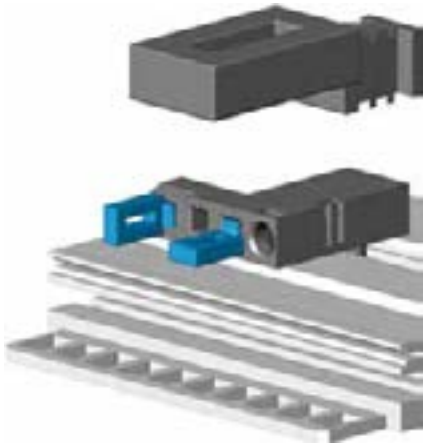
Delivery Form: In units for self-assembly

Note:

- Can be turned in 4 positions
- Fire protection classification

PA: UL 94 V0

Color	Order no.
Red	23 10 01 57



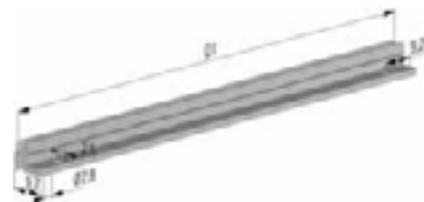
Accessories

• Card guide *Al-Rail – Future/FutureX*

Material: Aluminum rail ALMgSi 0.5 raw

Scope of Delivery: Card guide rail 1 PU (50 pcs)

Delivery Form: In units for self-assembly



Note:

– Can only be secured with screws

Card depth	Groove width	D1	Standard	Heavy duty version
220 mm	2.0 mm	202 mm	-	23 10 04 40
280 mm	2.0 mm	262 mm	-	23 10 04 41

• Card guide *EK 280 mm – FutureX*

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self- assembly



Note:

– Can only be clipped into position

Card depth	Groove width	Color	Standard	Heavy duty version
280 mm	2.0 mm	Black	-	23 10 04 37

• Card guide *4.4" – FutureX/Series 75/76/77*

For board height 4.4" (111.7 mm)

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly



Note:

– Can only be clipped into position

Card depth	Groove width	Series	Color	Standard	Heavy duty version
160 mm	2.0 mm	FutureX	Black	79 31 05 00	-
220 mm	2.0 mm	FutureX	Black	79 31 06 00	-
160 mm	2.0 mm	Series 75/76/77	Black	79 31 03 00	-

• Card guide *1/2 HP/IEEE – FerroRAIL*

For mounting in 1/2 HP offset according to IEEE 1101.1/IEEE 1101.10 applications.

For mounting Compact PCI power supplies and SMD plug-in modules.

Material: PC

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly



Note:

– Can in addition be secured with screws

– Mounting of EMC springs possible

Card depth	Groove width	Series	Color	Standard	Heavy duty version
160 mm	2.0 mm	FutureX	Black	79 31 05 00	-

Accessories

• Card guide – FerroRAIL

Material: PC

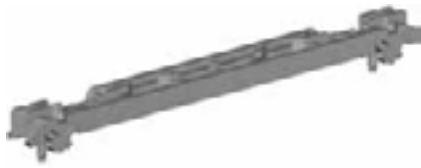
Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

- Can in addition be secured with screws
- Mounting of EMC springs possible

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Grey	-	23 10 04 04
220 mm	2.0 mm	Grey	-	23 10 04 05



• Card guide – Series 75/76/77

Material: PPO

Scope of Delivery: Card guide 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

- Screw-on heavy-duty version
- Mounting of EMC springs only possible with heavy-duty version

Card depth	Groove width	Color	Standard	Heavy duty version
100 mm	2.0 mm	Black	79 31 40 00	-
160 mm	2.0 mm	Black	79 31 00 00	79 31 04 00
220 mm	2.0 mm	Black	-	79 31 12 00



• Card grid – Series 75/76/77

Card grid, 7-fold in 4-HP increments

Material: PPO

Scope of Delivery: Card grid 1 PU (25 pcs)

Delivery Form: In units for self-assembly

Note:

- Can only be clipped into position

Card depth	Groove width	Color	Standard	Heavy duty version
160 mm	2.0 mm	Black	79 31 91 00	-



• Card guide, 3-piece

3-piece card guide for individual board depth

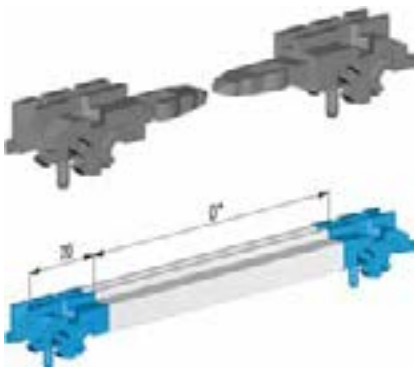
Material/Scope of Delivery: See ordering table

Delivery Form: In units for self-assembly

Note:

- End pieces can in addition be secured with screws
- Not possible to mount EMC springs

Version	Groove width	Material	Color	Scope of Delivery	Order no.
End pieces (pair)	2.0 mm	PPO	Black	1 PU (50 pair)	79 31 62 00
Card guide rail	2.0 mm	Aluminum	Anodized	2750 mm	90 16 00 00
Card guide rail	2.0 mm	ABS	Black	2750 mm	90 42 40 01



EMC/ESD shielding material

To ensure that the electronic products function satisfactorily in an electromagnetic environment, i.e. that the electromagnetic compatibility (EMC) of the products is guaranteed, additional shielding material may be required, depending on the electronics and the ambient conditions.

EMC springs/fabrics are used to make contact with mechanical components and thus provide EMC/ESD shielding material shielding for the plug-in units and electronics against high-frequency radiation.

ESD springs/screws are used for the discharge of static electricity. ("ESD" abbreviation for "Electrostatic Discharge")

• Shielding material EMC spring – Future/FutureX/FerroRAIL

Is mounted in the groove of the mounting bracket, corner bracket or front panel with a special assembly tool.

Can be mounted left or right.

Material: Spring steel 0.3 mm

Scope of Delivery:

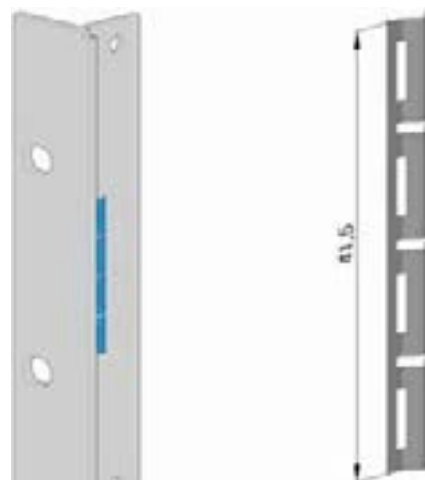
EMC spring 1 PU (50 pcs)

Assembly tool (optional) 1 pc

Delivery Form: In units for self-assembly

Note:

– The number of springs can be determined individually, depending on the degree of shielding required



Version	Order no.
EMC spring	23 10 04 24
Assembly too	23 10 04 28

• Shielding material EMC fabric – Future/FutureX

The self-adhesive EMC fabric D shape can be used on mounting brackets, corner brackets or front panels. It can be positioned left or right.

Material: Fabric Foam 1.5 x 2 mm, CuNi plated

Scope of Delivery:

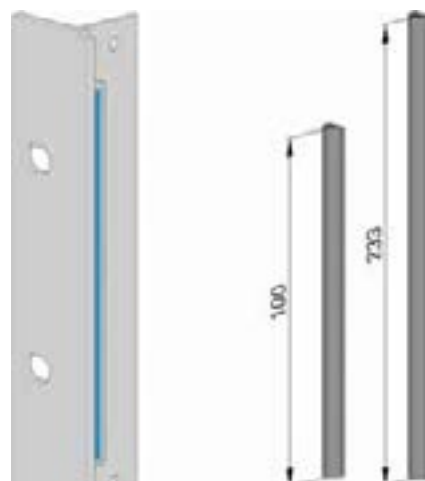
EMC fabric 1 PU (10 pcs)

By the meter (L = 1000 mm) 1 pc

Delivery Form: In units for self-assembly

Note:

– One-sided self-adhesive (peel-off film)
 – Temperature resistance: -40°C up to +100°C
 – Fire protection classification: UL 94V0



H	Order no.
3 U	23 10 04 30
6 U	23 10 04 31
By the meter (1000 mm)	23 10 04 32

EMC/ESD shielding material

• EMC contact clip for cover plate – Future/FutureX/FerroRAIL

For self-clipping mounting of cover plates and protective hoods.

The more clips are used, the better the subrack shielding properties.

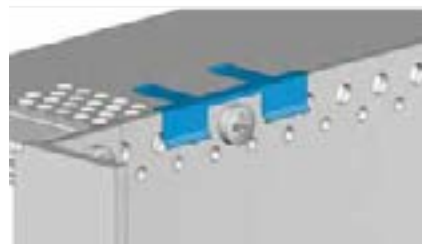
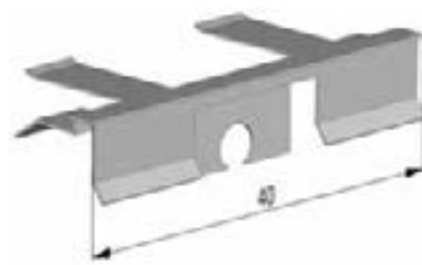
Material: Spring steel 0.3 mm

Scope of Delivery: EMC contact clip 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– To enhance vibration resistance use also pan head screw DIN 7985 M4 x 8 A2



Order no.

23 10 01 55

• Contact screw M2.5 for front panel grounding

The contact screw mounted into the threaded insert provides electrical contact between the anodized front panel and the horizontal front rail.

Material: Silver steel 1.2210, hardened

Scope of Delivery: Contact screw 1 PU (100 pcs)

Delivery Form: In units for self-assembly

Note:

- One-sided self-adhesive (peel-off film)
- Temperature resistance: -40°C up to +100°C
- Fire protection classification: UL 94V0



Order no.

79 51 50 49

EMC/ESD shielding material

- *ESD spring for card guide*

Mounted in the card guides it allows an electrostatic discharge of the board to the subrack.

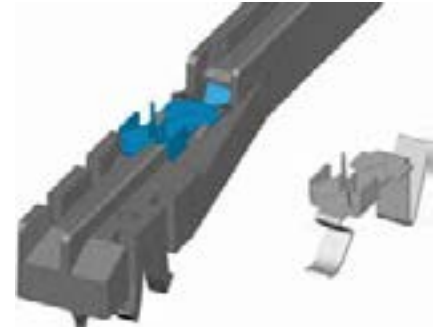
Material: Tin bronze, tin-plated

Scope of Delivery: ESD spring 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– Only for card guides with mounting groove for ESD spring



Order no.

79 41 71 02

- *ESD spring alignment pin*

The ESD spring alignment pin is mounted into the coding block and enables electrostatic discharge of the board via the IEEE extractor handle with ESD pin.

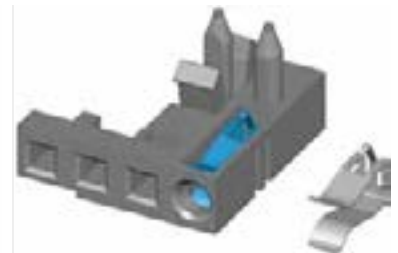
Material: Tin bronze, pewtered

Scope of Delivery: ESD spring 1 PU (50 pcs)

Delivery Form: In units for self-assembly

Note:

– Only for IEEE extractor handle with ESD pin



Order no.

23 10 01 52

Identification strips

Identification strips are used for labeling the slots.
The slot position is viewable through a hole in the front panel.

• Identification strips

Mounted in the card guides it allows an electrostatic discharge of the board to the subrack.

Material: Mounted (self adhesive) in the groove of the horizontal rail

Scope of Delivery: Identification strips 1 PU (10 pcs)

Delivery Form: In units for self-assembly

Note:

- One-sided self-adhesive (peel-off film)
- Cannot be used in horizontal front rails of the series Future or FerroRAIL
- Slot increment: 1 slot = 4 HP



84 HP	Imprint	Order no.
Front side	1 - 84 HP (HP increment)	79 37 00 00
Rear side	84 - 1 HP (HP increment)	79 37 10 00
Front side	1 - 21 (slot increment)	79 37 04 21
Rear side	21 - 1 (slot increment)	79 37 14 21

Accessories

• Hinge extrusion kit

for customized bottom-hinged or side-hinged front panels in conjunction with front rails in 19" environments.

Hinge extrusion with assembly hardware

Material

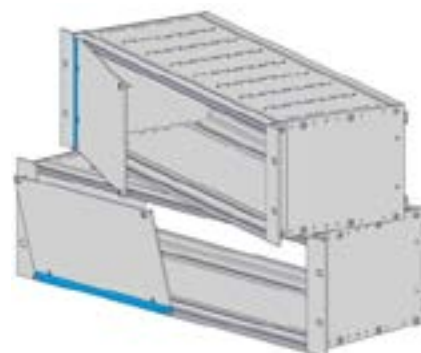
Aluminum extrusion, anodized
Hinge joints, aluminum anodized

Scope of delivery

Hinge extrusion 1 pc
Hinge joint left 1 pc
Hinge joint right 1 pc
Assembly hardware 1 pc

Delivery form

In units for self-assembly



H	W	Bottom-hinged	Side-hinged
	42 HP	79 00 01 13	
	63 HP	79 00 01 14	
	84 HP	79 13 00 00	
3U			79 14 00 00
6U			79 14 09 00

• Hinge element kit

for customized bottom-hinged or side-hinged front panels in conjunction with front rails in 19" environments.

Hinge elements with assembly hardware

Material

Hinge parts PA 6

Scope of delivery

Hinge elements, bottom-hinged
Hinge element left 2 pcs
Hinge element right 2 pcs
Hinge joint 3 pcs
Assembly hardware for hinge elements 1 pc

Hinge elements, side-hinged

Hinge element top 1 pc
Hinge element bottom 1 pc
Hinge joint 2 pcs
Assembly hardware for hinge elements 1 pc

Delivery form

In units for self-assembly



Bottom-hinged	Side-hinged
79 21 01 40	79 21 01 41

Accessories

• Extractors

Extractor handle, bottom, lockable, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- With 3 U just one extractor handle is needed at the bottom

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 11 02 42



Extractor handle, top, lockable, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- The top extractor handle is standardly used from 6 U onwards

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 11 02 43



Extractor handle, bottom, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- With 3 U just one extractor handle is needed at the bottom

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 10 01 53



Accessories

• Extractors

Extractor handle, top, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- The top extractor handle is standardly used from 6 U onwards

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 10 01 54



Telecom extractor handle, bottom, lockable, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- With 3 U just one extractor handle is needed at the bottom

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 11 02 44



Telecom extractor handle, top, lockable, with ESD contact pin

Material

Handle, plastic, RAL 9005
Socket, zinc die-cast

Delivery form

In units for self-assembly

Notes

- Can only be used in conjunction with front rail with incremented holes
- The top extractor handle is standardly used from 6 U onwards

Scope of delivery

Extractor handle, mounted 1 pc
Assembly kit 1 pc

Order no.

23 11 02 45



Micro switch

Scope of delivery

Micro switch 1 pc
Assembly kit 1 pc

Delivery form

In units for self-assembly

Order no.

23 11 02 46

Accessories

• Handles

The handles are mounted to the front panels for plug-in-modules. They facilitate insertion and extraction of the front panels. Molded handles are equipped with inscription plates for labeling purposes.

Extractor handles are used for higher insertion and extraction forces. The extractor handles are prepared for mounting of the coding clips with ESD contact pin.

Molded handle

Material

Molded handles made of Noryl (UL-94 V 1).
Identification plate made of aluminum clear anodized.

Scope of delivery

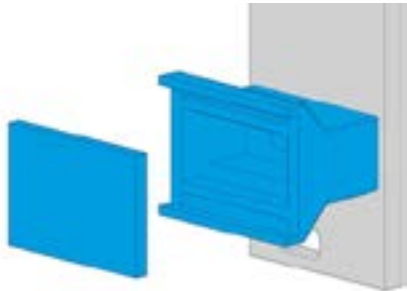
Molded handle 1 pc
Identification plate 1 pc

Delivery form

In units for self-assembly

Notes

- The identification plates are simply snapped on to the molded handles
- Assembly hardware must be ordered separately



W	Gray	Black
3 HP	79 35 01 00	79 35 10 00
4 HP	79 35 02 00	79 35 11 00
5 HP	79 35 03 00	79 35 12 00
6 HP	79 35 04 00	79 35 13 00
7 HP	79 35 05 00	79 35 14 00
8 HP	79 35 06 00	79 35 15 00
10 HP	79 35 07 00	79 35 16 00
12 HP	79 35 08 00	79 35 17 00

Molded handle

Material

Molded handles made of Noryl (UL-94 V 1).
Identification plate made of aluminum clear anodized.

Scope of delivery

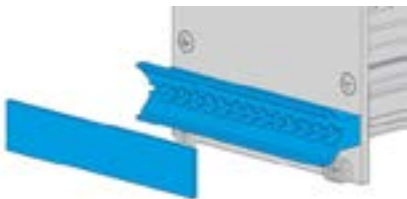
Molded handle 1 pc
Identification plate 1 pc

Delivery form

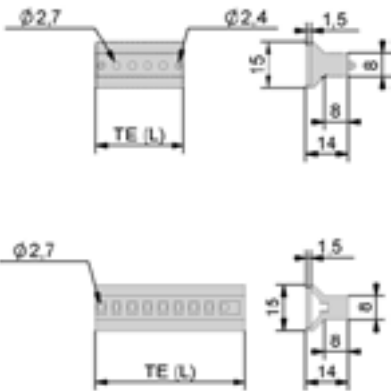
In units for self-assembly

Notes

- The identification plates are simply snapped on to the molded handles
- Assembly hardware must be ordered separately



W	Gray	Black
14 HP	79 35 19 00	79 35 22 00
16 HP	79 35 25 00	79 35 26 00
21 HP	79 35 20 00	79 35 23 00
28 HP	79 35 21 00	79 35 24 00
42 HP	79 35 09 00	79 35 18 00



Accessories

- **Board holders**

Front panels for plug-in-modules are mechanically connected to the PC boards by means of the board holder.

Board holder, one-piece

Material

PA 6, fiber glass 30%, black

Scope of delivery

Board holder, one-piece 1 pc

Delivery form

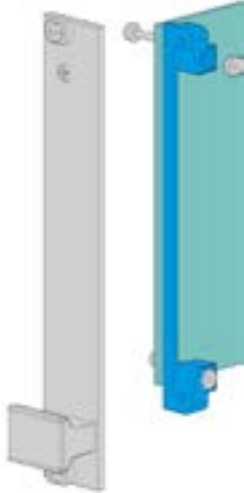
In units for self-assembly

Notes

- One-piece, for Eurocard height H = 100 mm
- Order 2 for 6 U
- Assembly hardware must be ordered separately

Order no.

79 30 00 00



Board holder – Front panels

Material

Zinc die-cast

Scope of delivery

Board holder 1 pc

Delivery form

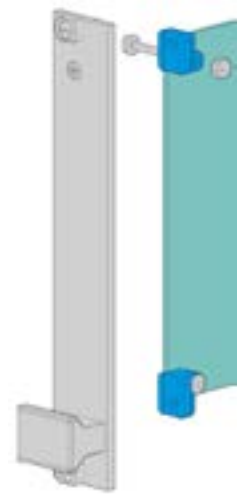
In units for self-assembly

Notes

- With M2.5 threads for front-panel and PC board mounting
- Assembly hardware must be ordered separately

Order no.

79 30 02 00



Accessories

Usage		Description	Version material	Standard	Front panels	Front Panels for Plug-in Modules	19" Front Panels	Order no	PU
Mounting of horizontal rails		Cylinder head screw with Torx T20, self-locking	M4 x 20 mm Steel nickle-plated	ISO 7049		•		79 91 02 01	1 PU (100 pcs)
		Cylinder head screw with low head	M4 x 12 mm Steel zinc-plated	DIN 7984			•	79 91 02 00	1 PU (100 pcs)
		Posidrive pan head screw, self-locking	M4 x 12 mm Steel nickle-plated	Similar to DIN 7985			•	79 91 01 00	1 PU (100 pcs)
Individual mounting to side plate		Insert nut	M4 Stainless steel			•		79 91 41 00	1 PU (10 pcs)
Mounting of subrack to 19" rack		Pan head screw with Torx T30	M6 x 16 mm Stainless steel	ISO 14583	•	•	•	79 91 85 00	1 PU (100 pcs)
		Posidrive pan head screw	M6 x 16 mm Steel nickle-plated	DIN 7985	•	•	•	79 91 23 00	1 PU (100 pcs)
		Plastic washer	d = 6.8 mm PP black		•	•	•	79 91 30 00	1 PU (100 pcs)
		Cage nut	M6 Steel zinc-plated		•	•	•	79 91 31 00	1 PU (100 pcs)
Mounting of card guide		Countersunk screw with Phillips head	2.5 x 6 mm Steel zinc-plated	WN 1413	•	•	•	79 51 50 48	1 PU (100 pcs)
		Posidrive pan head screw	M2.5 x 12 mm Steel nickle-plated	DIN 7985	•	•	•	79 91 13 00	1 PU (100 pcs)
Mounting of Z-rails, perforated rails		Posidrive pan head screw	M2.5 x 8 mm Steel nickle-plated	DIN 7985	•	•	•	79 91 08 00	1 PU (100 pcs)

Accessories

Usage		Description	Version material	Standard	Front panels	Front Panels for Plug-in Modules	19" Front Panels	Order no	PU
Mounting collar screws to front pane		Posidrive pan head screw	M2.5 x 8 mm Steel nickle-plated	DIN 7985	•	•	•	23 10 03 26	1 PU (100 pcs)
Mounting collar screws to front pane		Posidrive pan head screw	M2.5 x 8 mm zinc-plated	DIN 7985	•	•	•	79 91 87 00	1 PU (100 pcs)
Mounting collar screws to front panel		Posidrive pan head screw	M2.5 x 12 mm Steel nickle-plated	DIN 7985	•	•	•	79 91 13 00	1 PU (100 pcs)
Mounting molded handles to front pane		Posidrive pan head screw	M2.5 x 12 mm zinc-plated	DIN 7985	•	•	•	79 91 88 00	1 PU (100 pcs)
Mounting molded handles to front panel		Posidrive pan head screw	KA3.0 x 12 mm Steel zinc-plated	PT®	•	•	•	79 51 50 47	1 PU (100 pcs)
Mounting board holder to front pane		Hexagon nut	M2.5 Steel nickle-plated	DIN 934	•	•	•	79 91 07 00	1 PU (100 pcs)
Mounting board holder to front panel		Pan head screw with Torx T20, self-locking	M4 x 6 mm Stainless steel	similar to DIN 7985	•	•		23 10 03 30	1 PU (100 pcs)
Mounting board holder to front panel		Posidrive pan head screw, self-locking	M4 x 6 mm Steel nickle-plated	DIN 7985			•	79 91 21 00	1 PU (100 pcs)
Mounting front panel to subrack		Cylinder head screw with Torx T20, self-locking	M4 x 20 mm Steel nickle-plated	ISO 7049		•		79 91 02 01	1 PU (100 pcs)
		Cylinder head screw with low head	M4 x 12 mm Steel zinc-plated	DIN 798			•	79 91 02 00	1 PU (100 pcs)
Mounting threaded inserts		Threaded inserts with lace	M4 x 20 mm Stainless steel zinc-plated	DIN 914	•	•	•	79 91 89 00	1 PU (100 pcs)

Accessories

Usage		Description	Version material	Standard	Front panels	Front Panels for Plug-in Modules	19" Front Panels	Order no	PU
Mounting 19" front panels to case / cabinet		Pan head screw with Torx T30	M6x16 stainless steel	ISO 14583			•	79 91 85 00	1 PU (100 pcs)
Mounting 19" front panels to case / cabinet		Cross-recessed pan head screw	M6x16 steel, nickel-plated	DIN 7985			•	79 91 23 00	1 PU (100 pcs)
Mounting 19" front panels to case / cabinet		Plastic washer	d = 6.8mm PP black				•	79 91 30 00	1 PU (100 pcs)
Mounting 19" front panels to case / cabinet		Cage nut	M6 steel zinc-plated				•	79 91 31 00	1 PU (100 pcs)
Mounting front panel to subrack		Knurled collar screw	M2-5 steel nickel-plated		•	•		79 51 50 01	1 PU (100 pcs)
Mounting front panel to subrack		Knurled collar screw	M2.5 steel black alodined		•	•		79 51 50 02	1 PU (100 pcs)
Mounting front panel to subrack		Slotted collar screw	M2.5 steel nickel-plated		•	•		79 51 50 03	1 PU (100 pcs)
Mounting front panel to subrack		Slotted collar screw	M2.5 steel black alodined		•	•		79 51 50 04	1 PU (100 pcs)
Mounting front panel to subrack		Cross-recessed collar screw	M2.5 steel nickel-plated		•	•		79 51 50 05	1 PU (100 pcs)
Mounting front panel to subrack		Cross-recessed collar screw	M2.5 steel black alodined		•	•		79 51 50 06	1 PU (100 pcs)
Mounting front panel to subrack		Combined slotted/cross-recessed collar screw	M2-5 steel nickel-plated		•	•		79 51 50 07	1 PU (100 pcs)

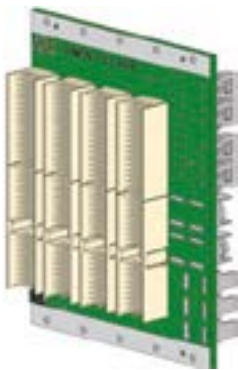
Accessories

Usage		Description	Version material	Standard	Front panels	Front Panels for Plug-in Modules	19" Front Panels	Order no	PU
Mounting collar screws to front pane		panel Metal sleeve	M2.5 steel nickel-plated		•	•		79 51 50 10	1 PU (100 pcs)
Mounting collar screws to front pane		panel Plastic sleeve	M2.5 gray		•	•		79 51 40 01	1 PU (100 pcs)
Mounting collar screws to front panel		panel Plastic sleeve	M2.5 black		•	•		79 51 40 02	1 PU (100 pcs)
Mounting molded handles to front pane		Cross-recessed countersunk head screw	M2.5x14 A2	DIN 965		•		79 91 34 00	1 PU (100 pcs)
Mounting molded handles to front panel		front panel Square nut	M2.5 steel zinc-plated	DIN 562		•		79 91 35 00	1 PU (100 pcs)
Mounting board holder to front pane		Cross-recessed raised countersunk head screw	M2.5x8 steel nickel-plated	DIN 966		•		79 91 05 00	1 PU (100 pcs)
Mounting board holder to front panel		Cross-recessed raised countersunk head screw	M2.5x8 steel black zinc-plated	DIN 966		•		79 91 82 00	1 PU (100 pcs)
Mounting board holder to front panel		panel Hexagon nut	M2.5 steel nickel-plated	DIN 934		•		79 91 07 00	1 PU (100 pcs)
Mounting front panel to subrack		Quick-release fastener				•		79 91 50 00	1 PU (100 pcs)
Mounting hinges to subrack		Square nut with plastic slide	M2.5			•		79 91 09 00	1 PU (100 pcs)
Mounting hinges to subrack		Square nut with plastic slide	M3			•		79 91 12 00	1 PU (100 pcs)

Backplane

Product information

The CompactPCI is based on a PICMG standard and thanks to its reliability and robust design is suitable for use in industrial environments. Here the classical PCI bus is transposed to a 19"-compliant platform.



Standards

- PICMG specification 2.0 R3.0 core specification, 2.1 R2.0 compliant
- Hot swap specification
- 2.9 R1.0 system management specification
- JTAG interface, 33 and 66MHz configurable (up to max. 5 slots)
- Connector class 2
- Power connections M4, ATX and HDD connectors

Scope of delivery

- Backplane fully equipped and tested (connection / interface test)
- Screw/plug-in connectors for power input
- Stabilization bars with 6U

Delivery form

In units for self-assembly

Note

- Different layouts or number of slots available on request

Overview

Product Information	Page
Configuration example	...
Surface finishing	...
Dimension diagrams	...

Basic Units	H	Slots	Data Size		System Slot		Rear I/O	Page
			32 Bit	64 Bit	R	L		
- CompactPCI 3U	3U	max 8	●	●	●	○	○	...
- CompactPCI 6U	6U	max 8	●	●	●	○	○	...

○ On request

Accessories	Page
Isolating strips	...
Assembly components	...

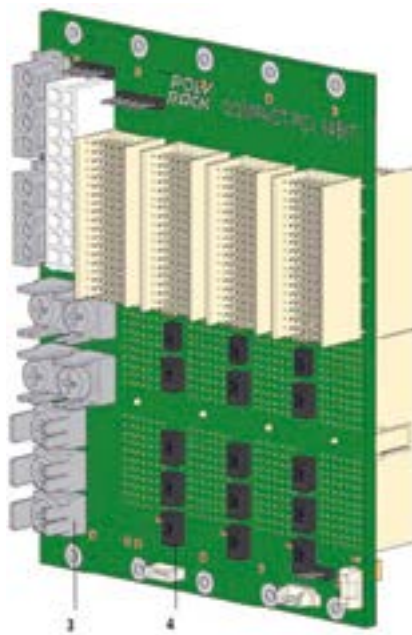
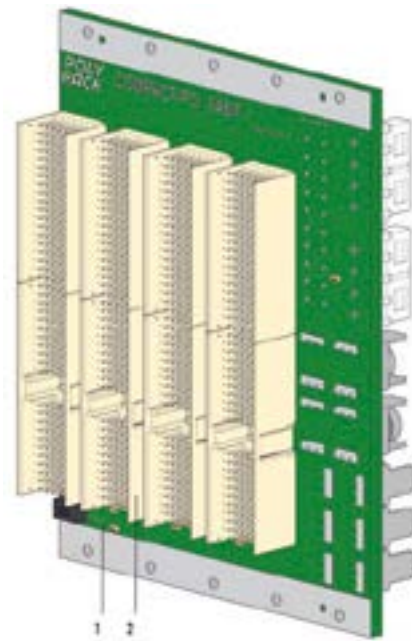
• Configuration example

The diagram shows the configuration of a CompactPCI 3U

- 1 Printed circuit board
- 2 Connector
- 3 Power elements
- 4 Components

Surface finishing

PC board = immersion tin



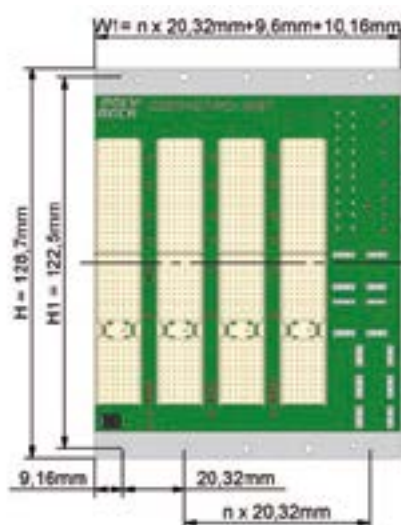
Basic units

The basic units differ with regard to data size and the position of the system slot.

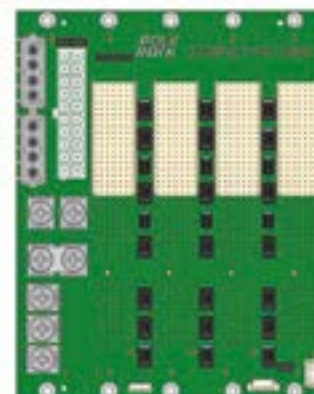
• Dimension diagrams

CompactPCI 3U front view

W1 = total width
n = number of slots
PCB thickness = 3.20 mm

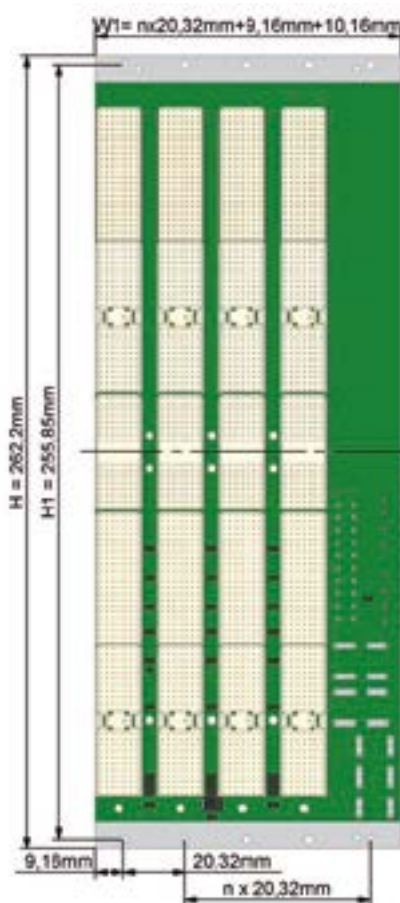


CompactPCI 3U rear view

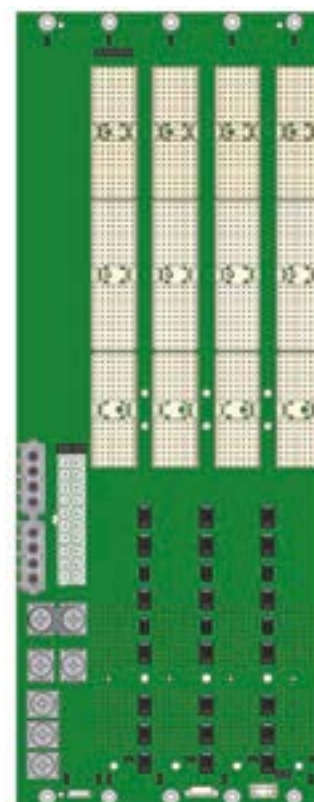


CompactPCI 6U front view

W1 = total width
n = number of slots
PCB thickness = 3.20 mm



CompactPCI 6U rear view



● CompactPCI 3U

32 bit or 64 bit, system slot either right or left **Note** Rear I/O only with 32 bit version

Scope of delivery

Backplane, fully equipped

Terminal screws M4

for power input elements - 1 pc

Delivery form

In units for self-assembly

Notes

- Number of layers = 10
- Number and configuration of power elements on request



Ordering table

Model	Slots	32 Bit	32 Bit	64 Bit	64 Bit
		System slot right	System slot left	System slot right	System slot left
CPCI-3U, 4 slot, 32bit, 64bit, S*	4	64 23 00 01	64 23 00 06	64 23 00 11	
CPCI-3U, 5 slot, 32bit, S*	5		64 23 00 07		
CPCI-3U, 6 slot, 32bit, S*	6	64 23 00 03			
CPCI-3U, 7 slot, 32bit, S*	7	64 23 00 04			
CPCI-3U, 8 slot, 32bit, 64bit, S*	8	64 23 00 05	64 23 00 10	64 23 00 15	

* according to table

● CompactPCI 6U

64 bit, system slot either right or left, with Rear I/O

Scope of delivery

Backplane, fully equipped

Terminal screws M4

for power input elements - 1 pc

Delivery form

In units for self-assembly

Notes

- Number of layers = 10
- Number and configuration of power elements on request



Ordering table

Model	Slots	64 Bit	64 Bit
		System slot right	System slot left
CPCI-6U, 4 slot, 64bit, S*	4	64 23 00 21	
CPCI-6U, 6 slot, 64bit, S*	6	64 23 00 23	64 23 00 28
CPCI-6U, 8 slot, 64bit, S*	8	64 23 00 25	64 23 00 30

* according to table

Fan Trays

Product information

Our fan trays are designed as circulation fans, they draw the air in from below and blow it into the assemblies located above.

You can choose between various models and can at all times upgrade the fan to convert to forced heat dissipation of individual subracks (also when several subracks are stacked one above the other).



Standards

- Isolation test in accordance with EN 60950
- Protection class (AC): 1
- Overvoltage category: 2
- IP rating: IP20
- Protection against contact: EN292, T1 and T2

Overview

Product Information	Page
Configuration example	...
Surface finishing	...
Technical specifications of components	...
Dimension diagrams	...

Series

Basic Units	Operating voltage		Power line connector	Fan failure	System Slot	ON/OFF switch	Connected Power inlet	Page
	AC	DC			Temperature regulation			
- FT01-1	•			-	-	-		...
- FT01-2	•		•	-	-	•	•	...
- FT02-1		•		-	-	-		...
- FT01-2		•		•	•	-		...

Accessories	Page
Pressure fan conversion kit	...
Power cables	...
Assembly components	...

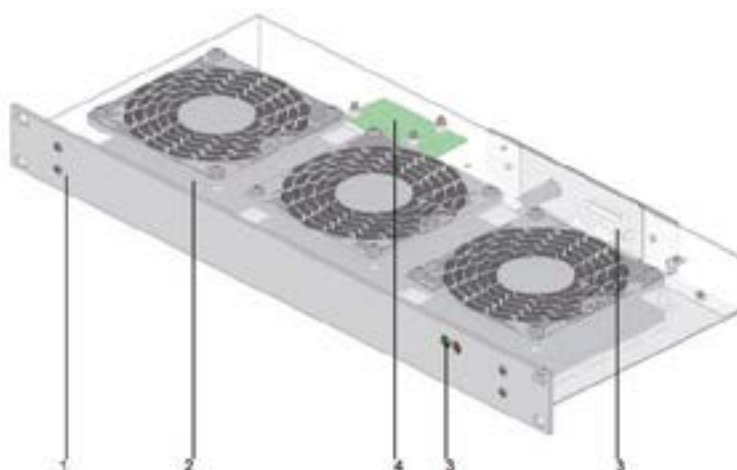
• Configuration example

The diagram shows the configuration of a series FT02-2 fan tray

- 1 Mechanical components
- 2 Fan
- 3 Wiring, with operating and connecting elements
- 4 Monitoring electronics

Surface finishing

- Main structure stainless steel 4016
- Front panels = front anodized / rear alodined



Technical specifications of components

Model	Dimension	Fan performance	Noise	Use		Note
				FT01-1	FT01-2	
AC	119 x 119 x 38 mm	100 m ³	32dB(A)	•	•	115V version available on request

Model	Dimension	Fan performance	Noise	Use		Note
				FT02-1	FT02-2	
DC	119 x 119 x 32 mm	170 m ³	45dB(A)	•		
DC	119 x 119 x 32 mm	85 - 170 m ³	45dB(A)		•	Speed temperature-controlled, FAIL signaling

Basic units

The basic units differ with regard to operating voltage (AC or DC) and configuration

• FT01-1 and FT01-2 Dimension diagrams

FT01-1 front view



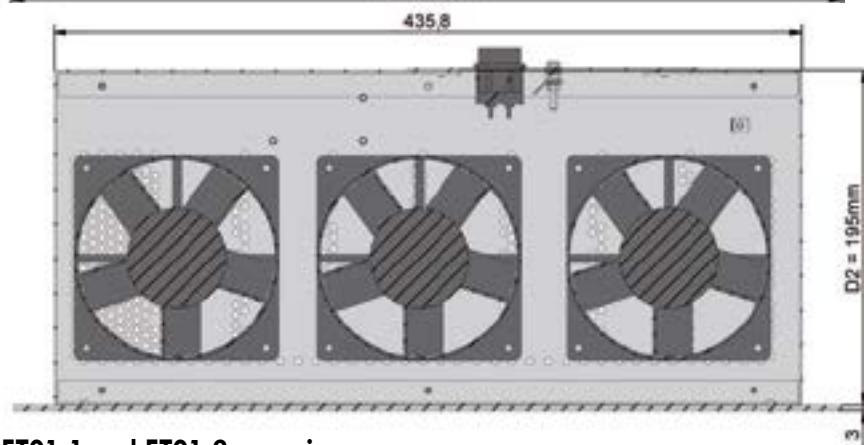
FT01-2 front view



FT01-1 and FT01-2 top view

D2 = mounting depth in 19" rack (without allowance for power components etc.)

Power inlet not included in FT01-1



FT01-1 and FT01-2 side view

Power inlet not included in FT01-1



FT01-1 and FT01-2 rear view

Power inlet not included in FT01-1

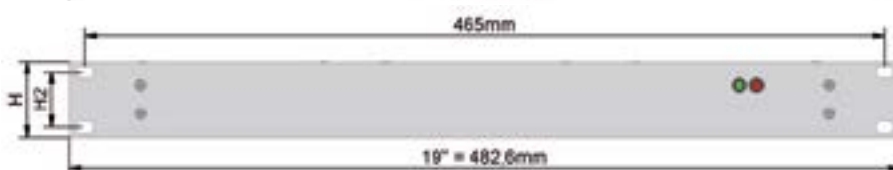


• FT02-1 and FT02-2 Dimension diagrams

FT02-1 front view



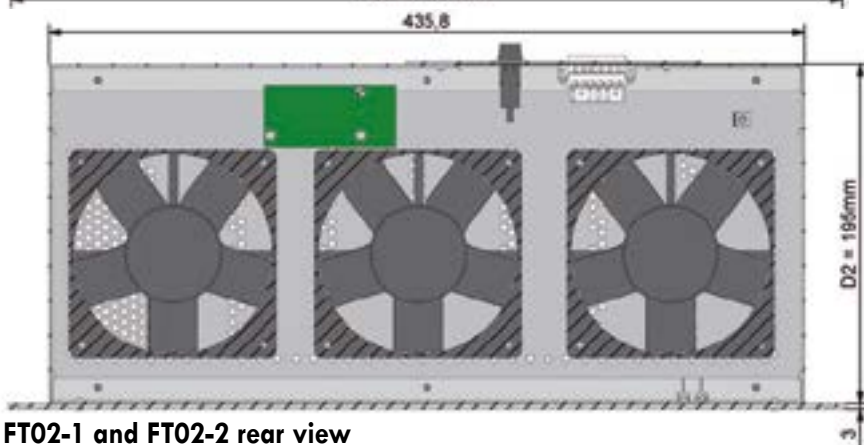
FT02-2 front view



FT02-1 and FT02-2 top view

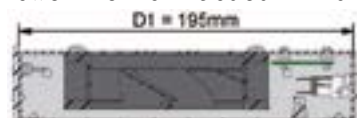
D2 = mounting depth in 19" rack (without allowance for power components etc.)

Power inlet not included in FT02-1



FT02-1 and FT02-2 side view

Power inlet not included in FT02-1



FT02-1 and FT02-2 rear view



● FT01-1

Application-optimized version for use with AC voltage supply

Scope of delivery

Mechanical parts - 1 pc

Fans - 3 pcs

Wiring and connecting elements 1 pc

Delivery form

Fully assembled and functionality and safety tested



Ordering table

Model	Operating voltage	Power consumption	Number of fans	ON/OFF switch	I _{max} power inlet	Order no
FT01-1	230 VAC / 50Hz	15 W	3	-	-	68 28 20 02

● FT01-2

As FT01-1, but with power switch and power inlet

Scope of delivery

Mechanical parts 1 pc

Fans 3 pcs

Wiring and connecting elements 1 pc

ON/OFF switch 1 pc

Power inlet 1 pc

Delivery form

Fully assembled and functionality and safety tested

Note

– Power inlet, switched



Ordering table

Model	Operating voltage	Power consumption	Number of fans	ON/OFF switch	I _{max} power inlet	Order no
FT01-2	230 VAC / 50Hz	15 - 20W	3	●	max. 5A	68 28 20 22

● FT02-1

Application-optimized version for use with DC voltage supply

Scope of delivery

Mechanical parts 1 pc

Fans 3 pcs

Wiring and connecting elements 1 pc

Delivery form

Fully assembled and functionality and safety tested



Ordering table

Model	Operating voltage	Power consumption	Number of fans	Monitoring electronics Fan failure	Temperature regulation	Order no
FT02-1	24VDC	15 W	3	-	-	68 28 40 01

● FT02-2

As FT02-1, but with temperature and speed regulation

Scope of delivery

Mechanical parts 1 pc

Fans 3 pcs

Wiring and connecting elements 1 pc

Monitoring electronics 1 pc

Delivery form

Fully assembled and functionality and safety tested



Ordering table

Model	Operating voltage	Power consumption	Number of fans	Monitoring electronics Fan failure	Temperature regulation	Order no
FT02-2	24VDC	16 W	3	●	●	68 28 40 11

Divisione Custom

• *Presentazione*

L'evoluzione del mercato dell'elettronica, nel quale siamo presenti come produttori di contenitori da 40 anni, ha portato l'utilizzatore dei nostri subracks a utilizzare soluzioni "customizzate" in molte applicazioni.

Diventa così importante anche per noi seguire il Cliente nelle sue esigenze di produrre una soluzione meccanica a disegno.

Siamo specializzati nel "vestire" con contenitori a disegno, anche tutte quelle schede elettroniche con dimensioni fuori dallo standard eurocard.

Il nostro Ufficio Tecnico può Consigliarvi e Progettare assieme a Voi, o per conto Vostro su vostre indicazioni, delle soluzioni ad Hoc.

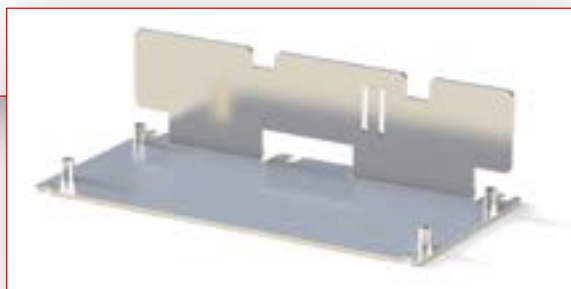
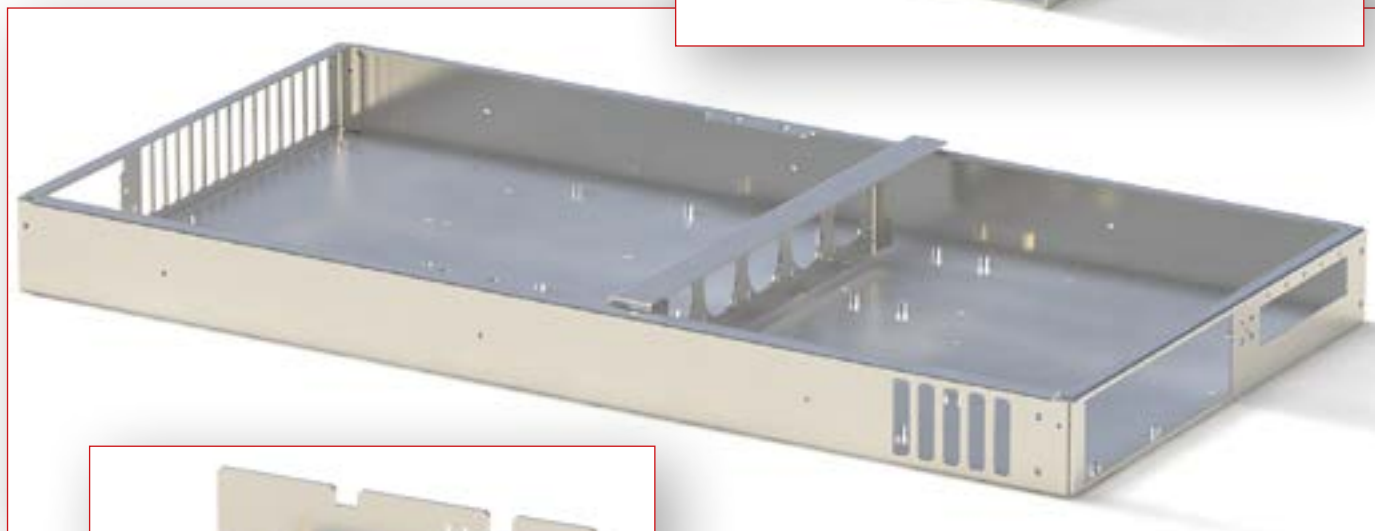
Possiamo comunicare attraverso delle Bozze e dei disegni tecnici, costruendo insieme la soluzione ideale.

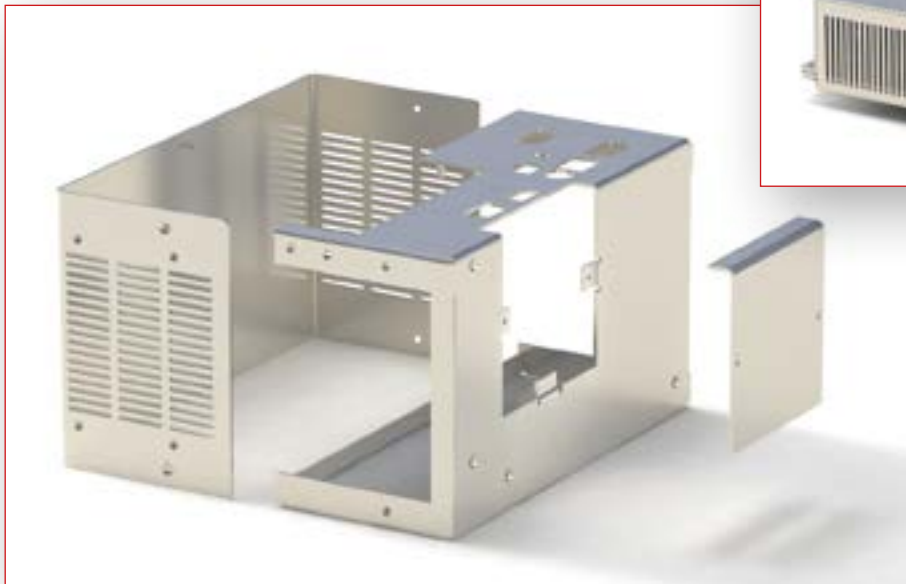
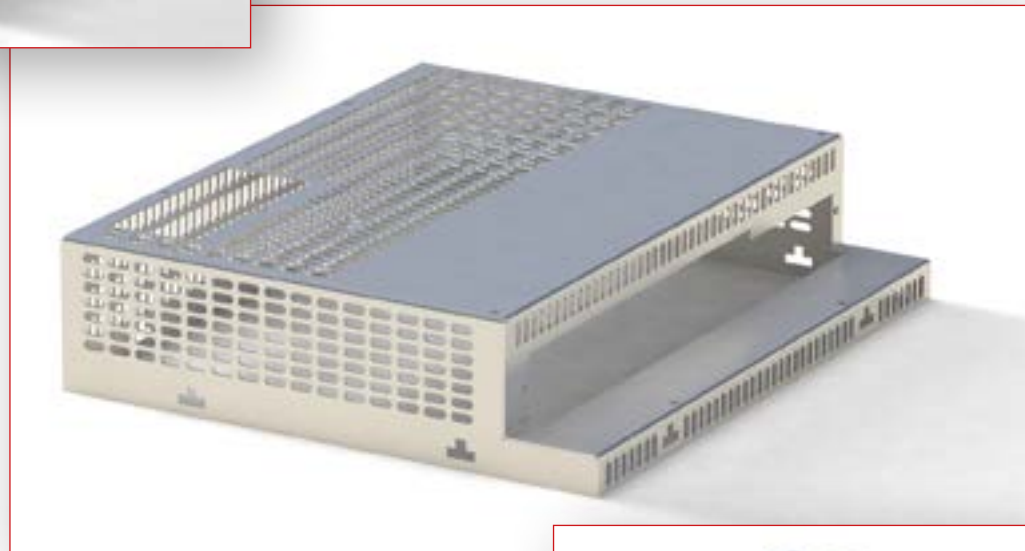
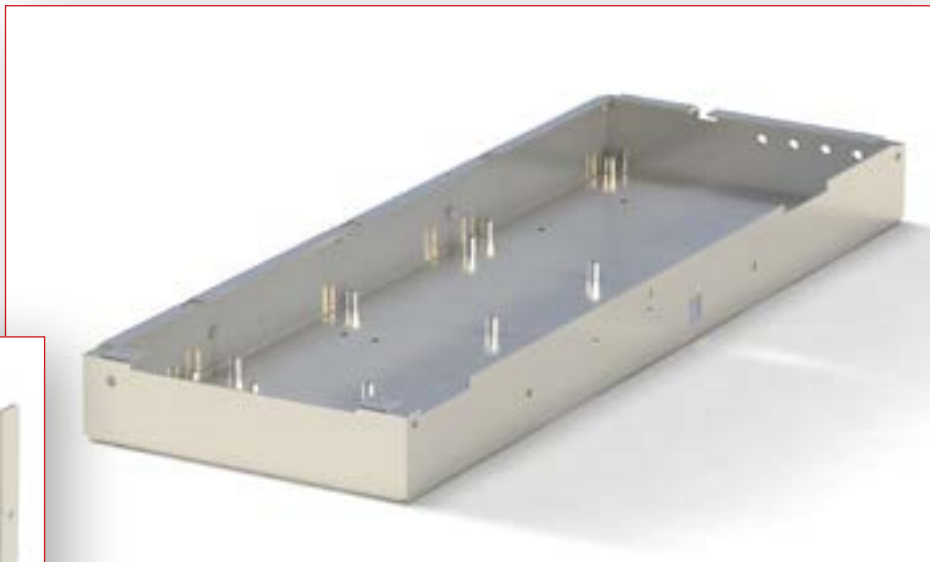
Comunichiamo con qualsiasi formato di disegno o di immagine:

.PDF .DWG .DXF .JPEG .STEP .IGES e molti altri...

I contenitori costruiti partendo dalla lamiera, vengono prodotti utilizzando un parco macchine all'avanguardia, considerate inoltre che vengono trattati superficialmente e serigrafati all'interno dei nostri stabilimenti.

Vi ringraziamo per opportunità di collaborazione...









TORNERIA

TORNERIA

TORNERIA

Presentazione

La nostra torneria è al servizio della clientela per la produzione di innumerevoli tipologie di lavorazioni per grandi, medie e piccole serie, nonché la realizzazione di pezzi particolarmente complessi, puntando sempre alla qualità ed all'affidabilità dei prodotti e alla massima soddisfazione del cliente.

In questi ultimi anni siamo riusciti nell'impresa di organizzare un gruppo di lavoro attento alla ricerca ed allo sviluppo di tecnologie produttive innovative. La nostra torneria si è consolidata anche per l'incremento del parco macchine e l'installazione di impianti particolarmente evoluti.

Sono stati raggiunti significativi traguardi che, uniti ad una particolare sensibilità nel risolvere problemi specifici, assicurano alla nostra clientela un elevato grado di affidabilità e qualità.

Soddisfiamo qualsiasi richiesta del cliente: I reparti produttivi e l'ufficio Controllo Qualità sono dotati di moderne ed efficienti attrezzature, aggiornate e rinnovate di frequente al fine di rispondere efficacemente alle esigenze produttive.

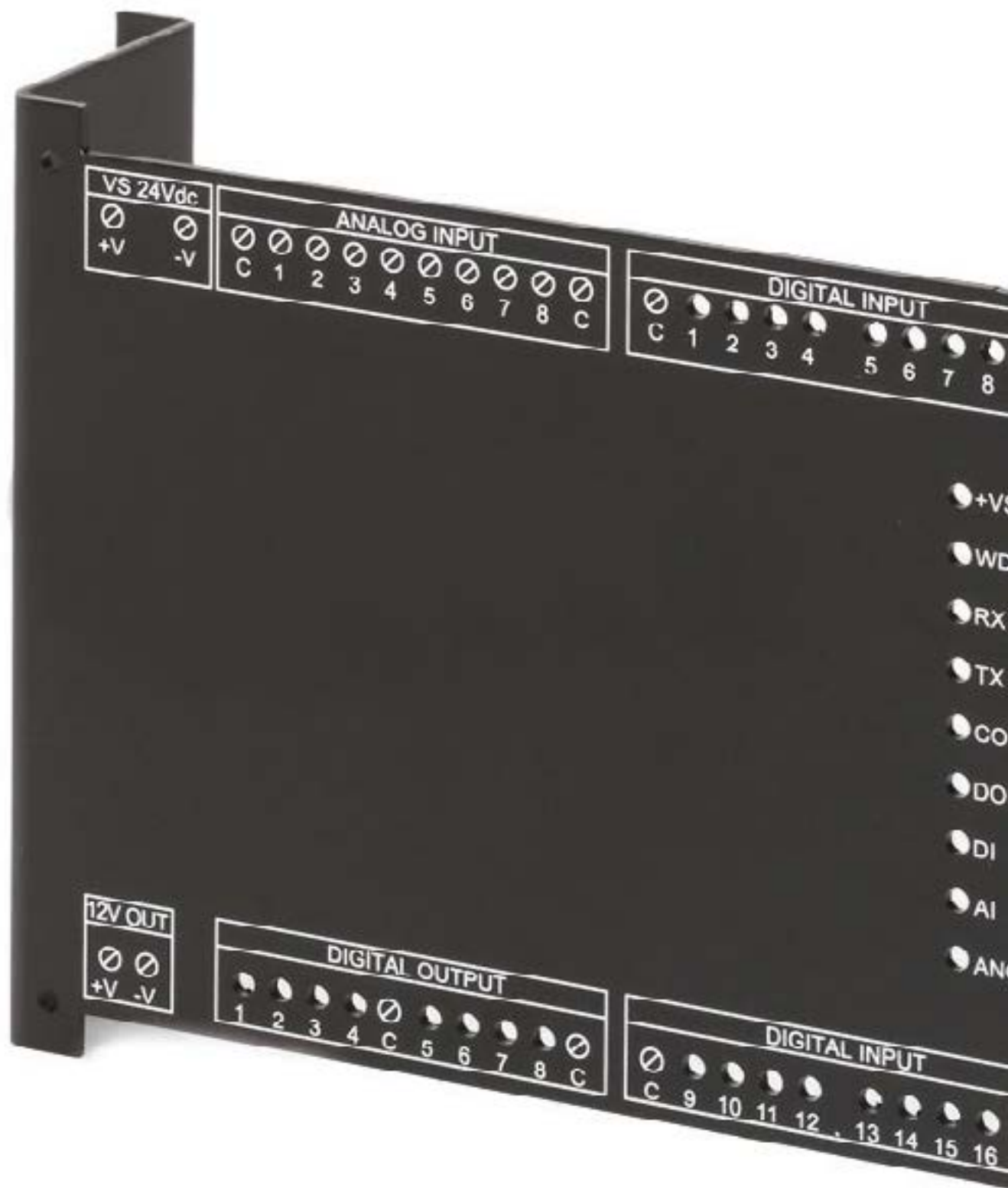
Gli obiettivi che ci siamo dati sono:

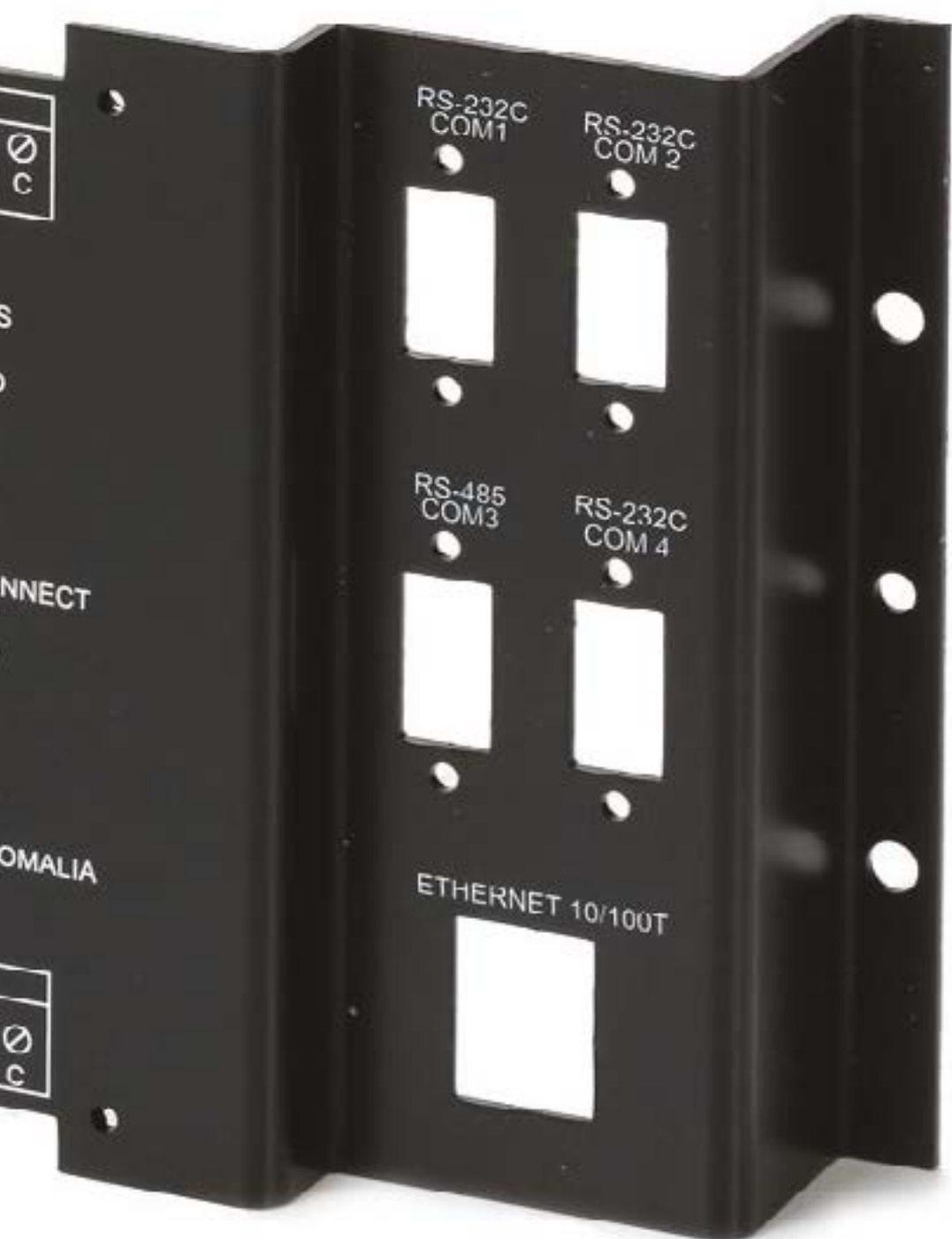
- Fornitura di prodotti con percentuale di difetti tendente a zero;
- Costruzione di particolari che soddisfino esigenze ben definite di impiego, con particolare cura dell'estetica e della funzionalità;
- Riduzione dei costi della non qualità;
- Ottimizzazione dei tempi di fornitura.

Per il raggiungimento di questi obiettivi, siamo costantemente impegnati al miglioramento della nostra organizzazione ed in continui studi per il perfezionamento dei cicli produttivi di fabbricazione e di controllo.









OFFICINA MECCANICA

OFFICINA MECCANICA

RACK
POOL

GFP

Service

OFFICINA MECCANICA

Presentazione

La nostra officina meccanica opera nel settore delle lavorazioni meccaniche di tornitura e fresatura metalli ad alta precisione per conto terzi.

Il nostro scopo sono la qualità ed affidabilità dei prodotti, requisiti di base nel settore meccanico.

La nostra officina si avvale di un parco macchine nuovissimo ed altamente specializzato e personale qualificato che consentono con grande flessibilità di soddisfare le richieste della clientela e di realizzare parti meccaniche destinate ai più vari settori. Continui aggiornamenti tecnologici e professionali, hanno reso la nostra officina una struttura produttiva sempre più flessibile e orientata alla soddisfazione del cliente. L'organizzazione aziendale, l'attenta gestione delle commesse, la continua ricerca della qualità, rendono l'impresa una realtà aziendale affidabile ed in linea con le esigenze di mercato.

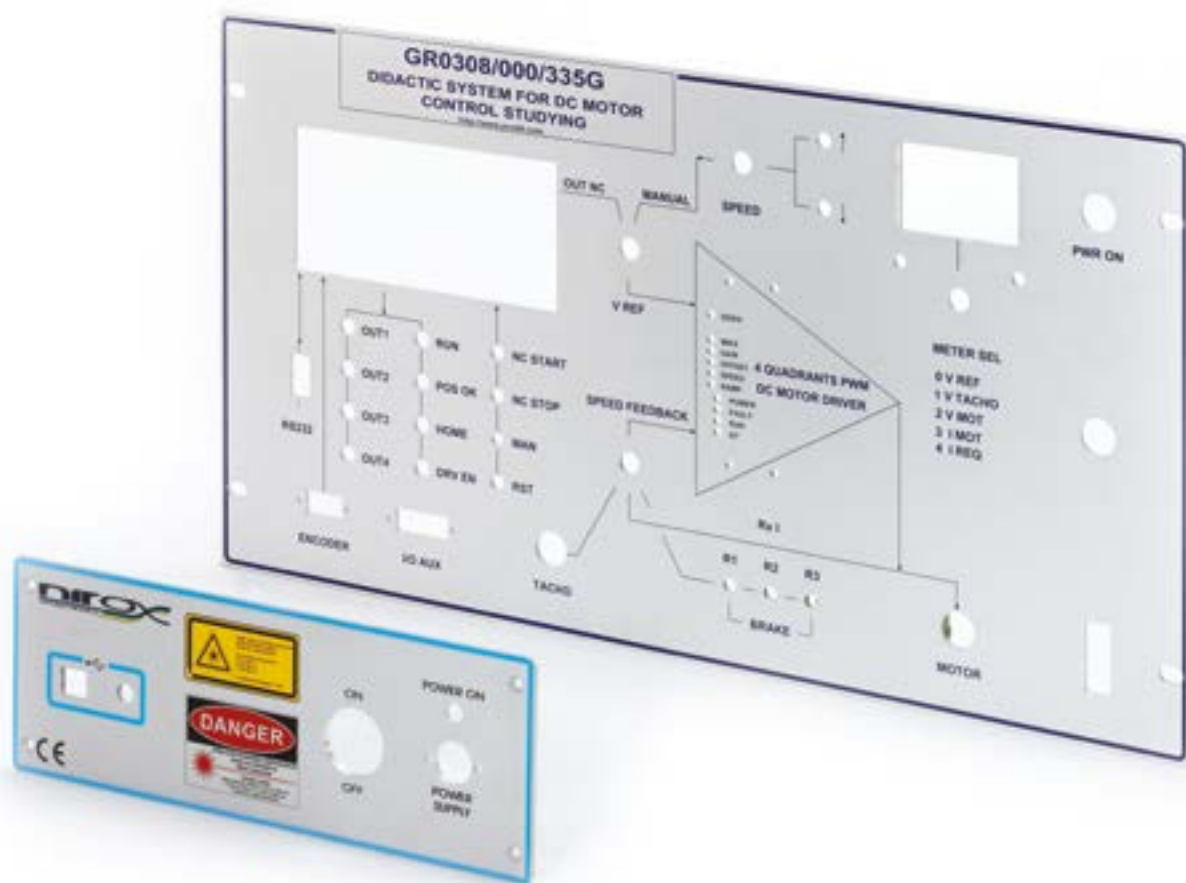


Lavorazioni Possibili:

- *Punzonatura - Taglio Laser - Piegatura - Fresatura - Tornitura - Tranciatura - Taglio - Infinite Customizzazioni*









TRATTAMENTI GALVANICI

TRATTAMENTI GALVANICI

Service



○ ○
RACK POOL
○ ○

TRATTAMENTI GALVANICI

Presentazione

Da anni la nostra azienda opera nel campo della componentistica meccanica e siamo specializzati nei trattamenti superficiali dell'alluminio e delle sue leghe.

GFP RACK POOL garantisce, per ogni tipologia di trattamento e per ogni fase del relativo ciclo, la massima cura e rispetto per gli standard richiesti, siamo particolarmente attenti alle esigenze di mercato e riteniamo di fondamentale importanza la soddisfazione del cliente, attraverso l'adozione di una corretta e costante politica di assicurazione e controllo della qualità.

Per il raggiungimento di questi obiettivi, siamo costantemente impegnati al miglioramento della nostra organizzazione ed in continui studi per il perfezionamento dei cicli produttivi e di controllo.

I processi di Ossidazione Anodica detta anche Anodizzazione e Passivazione vengono effettuati immergendo i pezzi da trattare nelle apposite vasche. Le fasi dei trattamenti vengono presentate di seguito:

● Ossidazione Anodica

L'**Ossidazione Anodica** (detta anche Anodizzazione) è un processo elettrochimico mediante il quale uno strato protettivo di ossido di alluminio si forma sulla superficie del pezzo trattato.

Il trattamento consente di proteggere l'alluminio dall'aggressione degli agenti atmosferici, aumentare la durezza superficiale, aumentare la resistenza all'usura e all'abrasione, fornire un moderato isolamento termico e migliorare altre caratteristiche come l'incollaggio.

Fasi del trattamento:

- Preparazione:

Fissaggio dei pezzi da trattare su appositi telai;

- Sgrassaggio:

Rimozione dei residui di grasso;

- Satinatura chimica:

Rende opaca/semilucida ed omogenea la superficie rimuovendo i residui di lavorazione;

- Neutralizzazione:

Neutralizza l'alcalinità residua e rimuove la patina;

- Ossidazione anodica:

Consente la formazione del caratteristico strato protettivo di ossido d'alluminio;

- Fissaggio;

Assicura la chiusura dei pori rendendo lo strato anodico vetroso ed impermeabile, aumentandone così la resistenza alla corrosione e alla perdita di colorante;

- Asciugatura:

Viene effettuata in forno con aria forzata;

- Smontaggio e imballaggio:

I pezzi vengono rimossi ed imballati o inviati alle successive fasi lavorative.



● **Passivazione Surtec 650**

La Passivazione SurTec 650 è una passivazione incolore con Cromo Trivalente che raggiunge elevati gradi di resistenza alla corrosione: il processo resiste a 336 h in nebbia salina semplice e 150 h in nebbia salina acetica, rispettando le normative MIL-DTL 81706B e MIL-DTL-5541F. Il prodotto presenta bassa resistenza elettrica (< 5000 Ohm per pollice² MIL-DTL-81706B) e resiste a elevate temperature lasciando inalterate le proprietà protettive.

E' la soluzione ideale in quanto le performance tecniche sono simili a quelle della cromatazione gialla, inoltre il trattamento con Surtec 650 è completamente atossico.

Fasi del trattamento:

- Preparazione:

Fissaggio dei pezzi da trattare su appositi ganci;

- Sgrassaggio:

Rimuove i residui di grasso;

- Satinatura chimica:

Rende opaca/semilucida ed omogenea la superficie rimuovendo i residui di lavorazione;

- Neutralizzazione:

Neutralizza l'alcalinità residua e rimuove la patina;

- Cromatazione incolore:

Bagno in cromo trivalente per la formazione del film protettivo conduttivo;

- Lavaggio:

I pezzi trattati vengono accuratamente lavati in acqua demineralizzata;

- Asciugatura:

Viene effettuata in forno con aria forzata;

- Smontaggio e imballaggio:

I pezzi vengono rimossi ed imballati o inviati alle successive fasi lavorative.

Offriamo inoltre un servizio di:

● **Zincatura**

la zincatura è il processo con cui viene applicato un rivestimento di zinco sul manufatto metallico per proteggerlo dalla corrosione.

● **Nichelatura**

Lo scopo del trattamento è quello di modificare le caratteristiche superficiali dei materiali lavorati mediante l'applicazione di un sottile strato di nichel.

● **Argentatura**

L'argentatura è eseguita in elettrotecnica per favorire i contatti elettrici e a spessore.

● **Cataforesi**

La verniciatura in cataforesi è un trattamento superficiale di verniciatura in grado di conferire a elementi in ferro, acciaio e altre leghe (conduttori di corrente) una notevole resistenza alla corrosione; è caratterizzata dal deposito uniforme di una resina epossidica o acrilica sulla superficie dell'elemento, assicurando per lungo tempo una straordinaria protezione.

● **Materiali e finiture**

Per richiedere il trattamento galvanico o il tipo di materiale / finitura desiderati è sufficiente aggiungere i seguenti suffissi
I codice articolo:

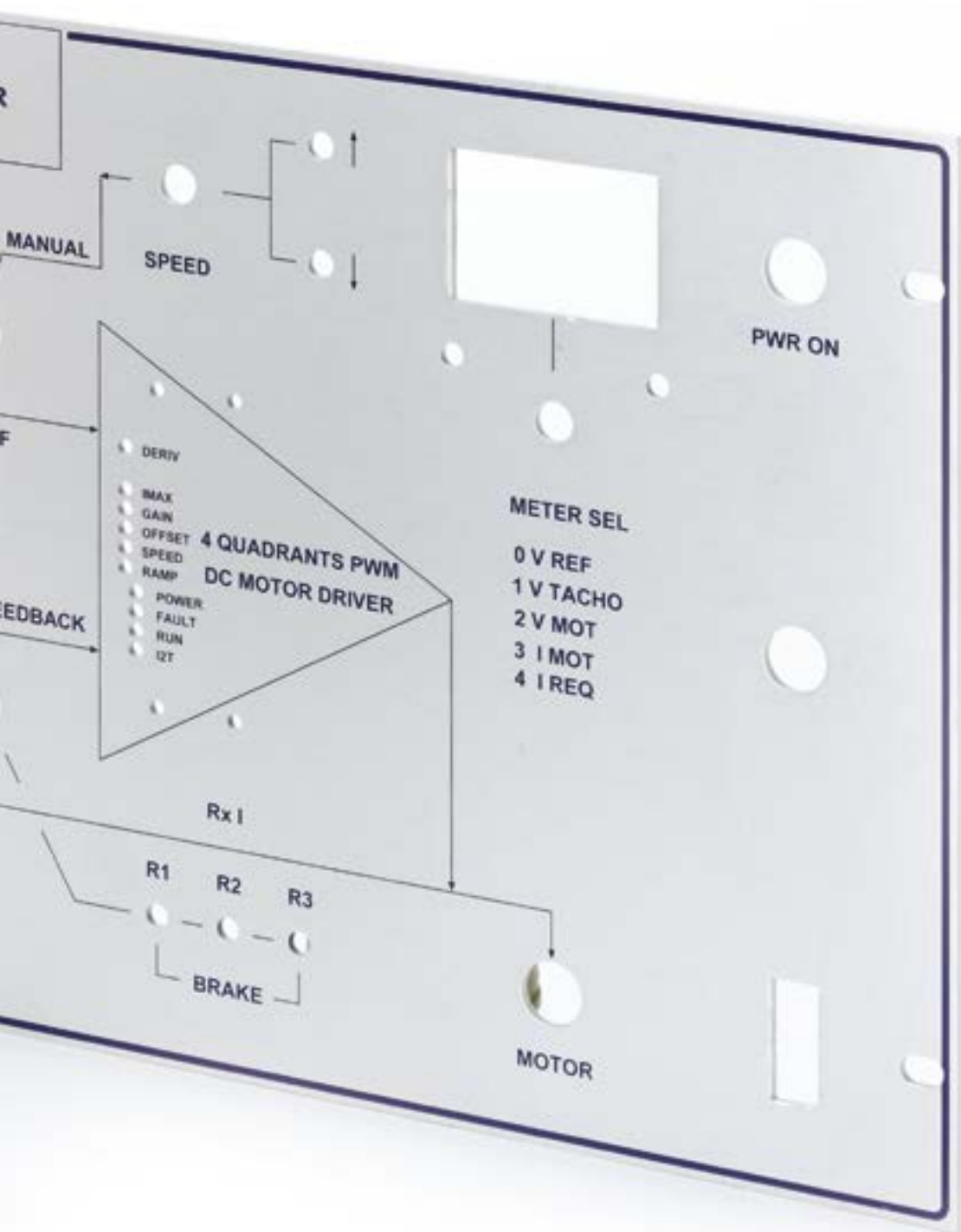
Trattamenti per alluminio:

BN= ANODIZZATO NATURALE/GRIGIO - BC= ANODIZZATO NERO - BA= SURTEC 650

Trattamenti per ferro:

D= PLASTIFICATO MARRONE - E= PLASTIFICATO GRIGIO CHIARO - F= PLASTIFICATO GRIGIO SCURO - G= PLASTIFICATO AZZURRO - H= PLASTIFICATO NERO - Ni = NICHELATO - Z= ZINCATO





SERIGRAFIA

SERIGRAFIA

SERIGRAFIA

Presentazione

All'interno della nostra sede di Polavento disponiamo di un evoluto reparto grafico, dotato di macchinari all'avanguardia, per mezzo del quale possiamo compiere qualsiasi lavoro di serigrafia e/o tampografia.

- **Serigrafia**

La serigrafia o stampa serigrafica è una tecnica di stampa di immagini e grafiche su qualsiasi supporto o superficie mediante l'uso di un tessuto (tessuto di stampa), facendo depositare dell'inchiostro su un supporto attraverso le aree libere del tessuto.

Il termine "serigrafia" deriva dal latino "seri" (seta) e dal greco "grapho" (scrivere), dato che i primi tessuti che fungevano da stencil erano di seta.

Una volta disegnato o trasferito lo stencil sul telaio (mediante varie tecniche), questo viene posto sul supporto scelto, l'inchiostro viene poi posizionato sulla parte alta del telaio e con una spatola di gomma, altrimenti detta racla, viene spalmato sull'intero telaio, comprese ovviamente le aree aperte al substrato.

L'inchiostro passa attraverso gli spazi aperti e si deposita sul supporto (alluminio, ferro, ecc...).

Il telaio viene quindi rimosso e il supporto viene fatto asciugare.

Il telaio può essere riusato dopo essere stato pulito.





• Tampografia

La stampa tampografica o stampa a tampone (in inglese Pad_printing) è un procedimento di stampa indiretto, che permette di riprodurre, in modo semplice e con elevata fedeltà e risoluzione, disegni, scritte e decori sia su superfici piane che su superfici concave, convesse o comunque irregolari.

Sostanzialmente si potrebbe definire come un sistema che permette di trasferire immagini e grafiche 2D su oggetti e superfici 3D.

Per mezzo di un tampone morbido e flessibile un film di inchiostro indelebile viene trasferito da una piastra incisa in acciaio o in fotopolimero (cliché tampografico) sulla superficie del supporto. La superficie di stampa può essere non planare grazie al tampone di stampa morbido che si può adattare facilmente alle diverse forme su cui viene pressato.

La tampografia permette di stampare con una definizione superiore alla serigrafia, consentendo la riproduzione dei tratti più sottili con nitidezza, anche a più colori e stampando “bagnato su bagnato”.

Si possono infatti ottenere ottime stampe anche in quadricromia, utilizzando retinature sui cliché (soprattutto quelli in fotopolimero), simili a quelli utilizzati per la litografia.

Questo processo di stampa può essere usato anche per depositare materiali funzionali come inchiostri conduttivi, adesivi e lubrificanti.



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