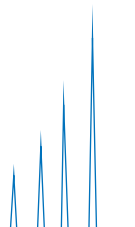




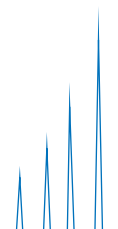
Overview on YMC Column Hardware and Phases



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Overview on YMC Column Hardware and Phases



UHPLC Column Hardware (-xxxxPT)

Properties:

Lengths: 20, 30, 50, 75, 100, 150 mm
 ID: 2.0, 2.1, 3.0, (4.6) mm
 Max. pressure: 1,000 bar (YMC-Triart 1.9 µm), 600 bar (Meteoric Core)
 Port depth: 2.0 mm (0.08")



Fig. 1: YMC-Triart UHPLC column



Fig. 2: Meteoric Core UHPLC/HPLC column

UHPLC Guard Cartridges (-xxxxCC)

Guard Holder needed: XPCHUHP



Fig. 3: UHPLC guard column holder



Fig. 4: UHPLC guard cartridge

Properties:

Lengths: 5 mm
 ID: 2.1, 3.0 mm
 Max. Pressure: 1,000 bar
 Port depth: adjustable

Applicable Phase-Hardware Combinations

| Family | Modification | Particle Size | PT | WT (UltraHT) | CC (Guard) |
|---------------|-----------------|---------------|----|--------------|------------|
| YMC-Triart | C18 | 1.9 µm | X | | X |
| | C18 ExRS | 1.9 µm | X | | X |
| | Bio C18 | 1.9 µm | X | | X |
| | C8 | 1.9 µm | X | | X |
| | Bio C4 | 1.9 µm | X | | X |
| | Phenyl | 1.9 µm | X | | X |
| | PFP | 1.9 µm | X | | X |
| | Diol-HILIC | 1.9 µm | X | | X |
| YMC-Pack Pro | C18 | 2 µm | | X | X |
| | Hydrosphere C18 | 2 µm | | X | X |
| Meteoric Core | C18 | 2.7 µm | X | | |
| | C18 BIO | 2.7 µm | X | | |
| | C8 | 2.7 µm | X | | |

Overview on YMC Column Hardware and Phases



Higher Pressure HPLC Column Hardware (-xxxxPTH)

Properties:

| | |
|----------------|----------------------------------|
| Lengths: | 20, 33, 50, 75, 100, 150, 250 mm |
| ID: | 2.1, 3.0, 4.6 mm |
| Max. Pressure: | 450 bar |
| Port depth: | 2.0 mm (0.08") |



Fig. 5: YMC-Triart high-pressure HPLC column

HPLC Column Hardware (-xxxxWT)

Properties:

| | |
|----------------|--|
| Lengths: | 30, 50, 75, 100, 150, 250 mm |
| ID: | 1.0, 2.0, 2.1, 3.0, 4.0, 4.6 mm |
| Max. Pressure: | 300 bar (3 µm, 150/250 mm length; CHIRAL ART) 250 bar (250 mm length) 200 bar (≤150 mm length) 100 bar (10-30 mm ID) 500 bar (2 µm, UltraHT) |
| Port depth: | 3.3 mm (0.13") |



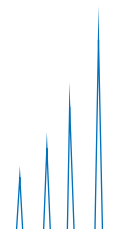
Fig. 6: YMC HPLC column - Waters type Port depth



Fig. 7: YMC-Triart HPLC column



Fig. 8: YMC-UltraHT HPLC column



HPLC Cartridge Type Hardware (-xxxxQT)

Properties:

| | |
|----------------|--|
| Lengths: | 30, 33, 50, 100, 125, 150, 250 mm |
| ID: | 2.1, 3.0, 4.0, (4.6) mm |
| Max. Pressure: | 250 bar (250 mm length) 200 bar (≤ 150 mm length) |
| Port depth: | 2.3 mm (0.09") |



Fig. 9: HPLC cartridge type column (2.1 mm ID)



Fig. 10: HPLC cartridge type column (3/4 mm ID)

HPLC Cartridge Hardware (-xxxxQC)

Properties:

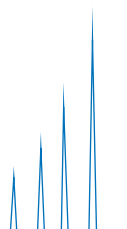
| | |
|----------------|--|
| Lengths: | 30, 33, 50, 100, 125, 150, 250 mm |
| ID: | 2.1, 3.0, 4.0, (4.6) mm |
| Max. Pressure: | 250 bar (250 mm length) 200 bar (≤ 150 mm length) |
| Port depth: | 2.3 mm (0.09") |



Fig. 11: HPLC cartridge (2.1 mm ID)



Fig. 12: HPLC cartridge (3/4 mm ID)



Analytical Guard Cartridges (-xxxxGC)

Guard Holder needed:

External/universal holder, for use with
PTH, WT, QT hardware.

For 10 mm length XPGCH-Q1

For 20 mm length XPGCH-Q2

Internal holder, for use with
QT hardware only.

For 10 mm length XPGCS-Q1

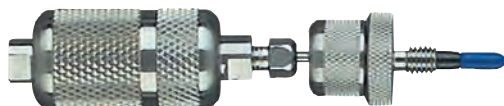


Fig. 13: universal HPLC guard cartridge holder



Fig. 14: internal HPLC guard cartridge holder

Properties:

Lengths: 10, 20 mm

ID: 2.1-4.0 mm

Max. Pressure: 550 bar

Port depth: adjustable

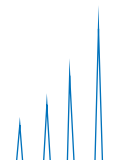


Fig. 15: HPLC guard cartridge

Applicable Phase-Hardware Combinations

| Family | Modification | Particle Size | PTH | WT | QT | QC | GC |
|--------------|-----------------|---------------|-----|----|----|----|----|
| YMC-Triart | C18 | 3, 5 µm | X | X | | | X |
| | C18 ExRS | 3, 5 µm | X | | | | X |
| | Bio C18 | 3, 5 µm | X | | | | X |
| | C8 | 3, 5 µm | X | X | | | X |
| | Bio C4 | 3, 5 µm | X | | | | X |
| | Phenyl | 3, 5 µm | X | X | | | X |
| | PFP | 3, 5 µm | X | X | | | X |
| | Diol-HILIC | 3, 5 µm | X | X | | | X |
| YMC-Pack Pro | C18 | 3, 5 µm | | X | X | X | X |
| | Hydrosphere C18 | 3, 5 µm | | X | X | X | X |
| | C18 RS | 3, 5 µm | | X | X | X | X |
| | C8 | 3, 5 µm | | X | X | X | X |
| | C4 | 3, 5 µm | | X | X | X | X |
| YMC-Pack | Diol SEC | 3, 5 µm | | X | X | X | X |
| | Diol SEC UHPLC | 2 µm | X | | | | |
| YMC-SEC MAB | Diol SEC | 3 µm | | X | | | X |
| BioPro | HIC BF | 4 µm | | X | | | X |
| | HIC HT | 2.3 µm | | X | | | X |

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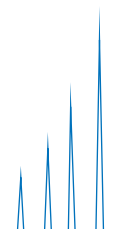


Overview on YMC Column Hardware and Phases



Applicable Phase-Hardware Combinations (Continued from previous page.)

| Family | Modification | Particle Size | WT | QT | QC | GC |
|----------------|-------------------------|---------------|----|----|----|----|
| YMC-Pack | ODS-A | 3, 5 µm | X | X | X | X |
| | ODS-AQ | 3, 5 µm | X | X | X | X |
| | ODS-AL | 3, 5 µm | X | X | X | X |
| | ODS-AM | 3, 5 µm | X | X | X | X |
| | Polymer C18 | 6 µm | X | X | X | X |
| | C ₈ (Octyl) | 3, 5 µm | X | X | X | X |
| | C ₄ (Butyl) | 3, 5 µm | X | X | X | X |
| | Ph (Phenyl) | 3, 5 µm | X | X | X | X |
| | Protein-RP | 5 µm | X | X | X | X |
| | TMS (C1) | 3, 5 µm | X | X | X | X |
| | CN (Cyano) | 3, 5 µm | X | X | X | X |
| | PVA-SIL | 5 µm | X | X | X | X |
| | Polyamine II | 5 µm | X | X | X | X |
| | NH ₂ (Amino) | 3, 5 µm | X | X | X | X |
| | Diol-NP | 3, 5 µm | X | X | X | X |
| | SIL (Silica) | 3, 5 µm | X | X | X | X |
| Specialities | YMC Carotenoid | 3, 5 µm | X | X | X | X |
| | YMC-PAH | 3, 5 µm | X | X | X | X |
| | J'Sphere ODS | 4 µm | X | X | X | X |
| | YMCbasic | 3, 5 µm | X | X | X | X |
| CHIRAL ART | Amylose-C (Neo) | 3, 5 µm | X | | X | X |
| | Cellulose-C | 3, 5 µm | X | | X | X |
| | Amylose-SA | 3, 5 µm | X | | X | X |
| | Cellulose-SB | 3, 5 µm | X | | X | X |
| | Cellulose-SC | 3, 5 µm | X | | X | X |
| | Cellulose-SJ | 3, 5 µm | X | | X | X |
| YMC CHIRAL ART | NEA (R)(S) | 5 µm | X | | X | X |
| | CD BR | 5 µm | X | | X | X |



Metal-free PEEK-lined Hardware (-xxxxPTP)

Properties:

| | |
|----------------|---|
| Lengths: | 50, 100, 150 mm |
| ID: | 2.1, 4.6 mm |
| Max. Pressure: | 450 bar (3/5 μm) 1000 bar (1.9 μm) |
| Port depth: | 2.0 mm (0.08") |

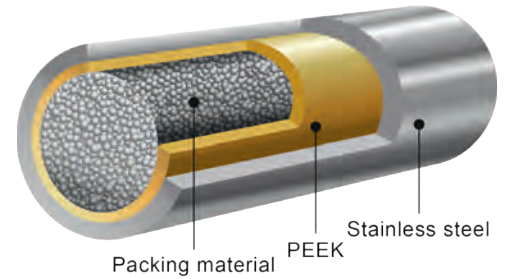
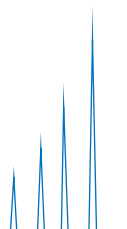


Fig. 16: YMC-Triart metal-free column

Applicable to following products only

| Family | Modification | Particle Size |
|------------|--------------|-------------------------|
| YMC-Triart | C18 | 1.9, 3, 5 μm |
| | C18 ExRS | |
| | Bio C18 | |
| | C8 | |
| | Bio C4 | |
| | Phenyl | |
| | PFP | |
| | Diol-HILIC | |



Overview on YMC Column Hardware and Phases



Biocompatible PEEK Hardware (-xxxxWP)

Properties:

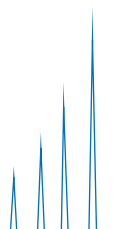
Lengths: 30, 50, 100, (150) mm
ID: 4.6 mm
Max. Pressure: 30 bar (porous 5 μm)
60-120 bar (non-porous 5 μm)
250 bar (non-porous 3 μm)
Port depth: 3.3 mm (0.13")



Fig. 17: BioPro column – Waters type Port depth

Applicable to following products only

| Family | Modification | Particle Size |
|------------|--------------|--------------------|
| BioPro IEX | SP | 5 μm |
| | SF | 3, 5 μm |
| | QA | 5 μm |
| | QF | 3, 5 μm |



Capillary Column Hardware (-xxxxAU/-xxxxRU)

Properties:

| | |
|----------------|--|
| Lengths: | 50, 75, 100, 150, (250) mm |
| ID: | 75, 100, 300, 500 μm |
| Max. Pressure: | 550 bar for 2, 3, 5 μm 600 bar for 1.9 μm |
| Fitting: | 1/16" (AU) 1/32" (RU) |
| Thread: | 10-32 (1/16") 6-40 (1/32") |
| Port depth: | 1/16"; 2.0 mm (0.08") 1/32"; 1.1 mm (0.045") |



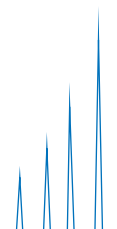
Fig. 18: YMC capillary columns



Fig. 19: YMC capillary guard columns

Applicable to following products:

All YMC RP (except Meteoric Core), NP, HILIC phases.



(Semi-)Preparative Hardware:

YMC-Actus Semi Prep. Hardware (20/30 mm ID) (-xxxxWX)

Properties:

Lengths: 50, 75, 100, 150, 250 mm
ID: 20, 30 mm
Max. Pressure: 300 bar
Port depth: 3.3 mm (0.13"), 1/16"



Fig. 20: YMC-Actus semi prep. column – Waters type Port depth

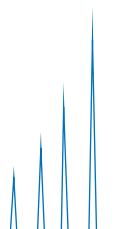
YMC-Actus Prep. Hardware (50 mm ID) (-xxxxDX / -xxxxAX)

Properties:

Lengths: 100, 150, 250 mm
ID: 50 mm
Max. Pressure: 200 bar
Connection: female Swagelok nut connection (DX, 1/8")
Port depth: 3.3 mm (0.13", AX, 1/16")
Fitting: 1/8" (DX)
1/16" (AX)



Fig. 21: YMC-Actus 50 mm, 1/8" prep. column – Waters type Port depth



Overview on YMC Column Hardware and Phases



Semi Prep. Hardware (10/20/30 mm ID) (-xxxxWT)

Properties:

| | |
|----------------|-----------------------|
| Lengths: | 100, 150, 250, 300 mm |
| ID: | 10, 20, 30 mm |
| Max. Pressure: | 100 bar |
| Port depth: | 3.3 mm (0.13"), 1/16" |

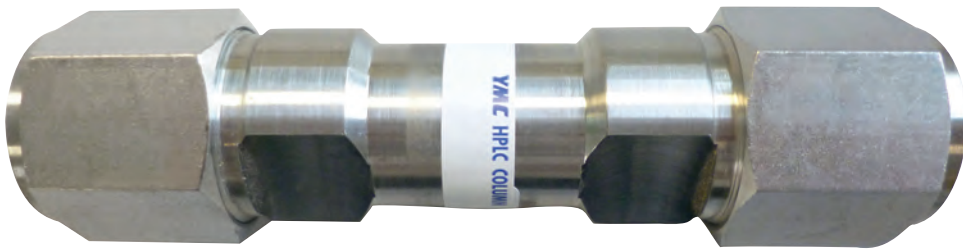


Fig. 22: standard semi-prep. column – Waters type Port depth

Semi Prep. Guard Cartridges (-xxxxCC(N))

Guard Holder needed:

For use with WT, WX hardware.

| | |
|--------------|-------------|
| For 10 mm ID | XPCHSPW1 |
| For 20 mm ID | XPGHFSP20ID |
| For 30 mm ID | XPGHFSP30ID |



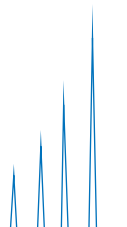
Fig. 23: semi prep. guard cartridge holder



Fig. 24: semi prep. guard cartridge

Properties:

| | |
|----------------|-----------------------|
| Lengths: | 10 mm |
| ID: | 10, 20, 30 mm |
| Max. Pressure: | 300 bar |
| Port depth: | 3.3 mm (0.13"), 1/16" |



Overview on YMC Column Hardware and Phases



Semi Prep. Guard Column Hardware (-xxxxWTG)

Properties:

Lengths: 30 mm
 ID: 8, 10, 20, 30 mm
 Max. Pressure: 100 bar
 Port depth: 3.3 mm (0.13"), 1/16"

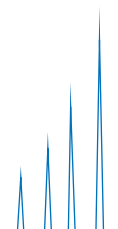


Fig. 25: semi prep. guard column – Waters type Port depth

Applicable Phase-Hardware Combinations

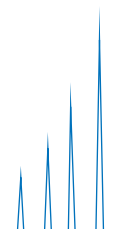
| Family | Modification | Particle Size | WX | WT | DX/AX | CC(N) | WTG |
|--------------|-----------------|---------------|----|----|-------|-------|-----|
| YMC-Triart | C18 | 5 µm | X | X* | X | X | X |
| | C18 ExRS | 5 µm | X | X* | X | X | X |
| | Bio C18 | 5 µm | X | X* | X | X | X |
| | C8 | 5 µm | X | X* | X | X | X |
| | Bio C4 | 5 µm | X | X* | X | X | X |
| | Phenyl | 5 µm | X | X* | X | X | X |
| | PFP | 5 µm | X | X* | X | X | X |
| | Prep C18-S | 10, 15, 20 µm | X | X* | X | X | X |
| | Prep C8-S | 10, 15, 20 µm | X | X* | X | X | X |
| YMC-Pack Pro | C18 | 5 µm | X | X* | X | X | X |
| | Hydrosphere C18 | 5 µm | X | X* | X | X | X |
| | C18 RS | 5 µm | X | X* | X | X | X |
| | C8 | 5 µm | X | X* | X | X | X |
| | C4 | 5 µm | X | X* | X | X | X |

*only for 10 mm ID available, for 20/30 mm YMC-Actus hardware available
 Continued on next page



Applicable Phase-Hardware Combinations (Continued from previous page.)

| Family | Modification | Particle Size | WX | WT | DX/AX | CC(N) | WTG |
|--------------|-------------------------|---------------|----|----|-------|-------|-----|
| YMC-Pack | ODS-A | 5 µm | X | X* | X | X | X |
| | ODS-AQ | 5 µm | X | X* | X | X | X |
| | ODS-AL | 5 µm | X | X | X | X | X |
| | ODS-AM | 5 µm | X | X | X | X | X |
| | C ₈ (Octyl) | 5 µm | | X | | X | X |
| | C ₄ (Butyl) | 5 µm | | X | | X | X |
| | Ph (Phenyl) | 5 µm | | X | | X | X |
| | Protein-RP | 5 µm | | X | | X | X |
| | TMS (C1) | 5 µm | | X | | X | X |
| | CN (Cyano) | 5 µm | | X | | X | X |
| | PVA-SIL | 5 µm | | X | | X | X |
| | Polyamine II | 5 µm | | X | | X | X |
| | NH ₂ (Amino) | 5 µm | | X | | X | X |
| | Diol | 5 µm | | X | | X | X |
| | Diol-NP | 5 µm | | X | | X | X |
| SIL (Silica) | 5 µm | | X | | X | X | |
| Specialties | YMCbasic | 5 µm | X | X | X | X | X |
| | YMC Omega | 10 µm | X | X* | | X | X |
| CHIRAL ART | Amylose-C (Neo) | 5 µm | X | X* | X | X | X |
| | Cellulose-C | 5 µm | X | X* | X | X | X |
| | Amylose-SA | 5 µm | X | X* | X | X | X |
| | Cellulose-SB | 5 µm | X | X* | X | X | X |
| | Cellulose-SC | 5 µm | X | X* | X | X | X |
| | Cellulose-SJ | 5 µm | X | X* | X | X | X |
| YMC-CHIRAL | NEA (R)(S) | 5 µm | | X | | X | X |
| | CD BR | 5 µm | | X | | X | X |



SFC Hardware

Alycon SFC-Hardware (-xxxx WTS)

Properties:

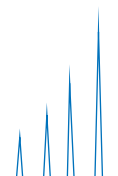
| | |
|----------------|--|
| Length: | 50, 100 mm for 3 μm 150, 250 mm for 3, 5 μm |
| ID: | 2.1, 3.0 mm for 3 μm 2.1, 4.6 mm for 3, 5 μm 10 mm for 5 μm |
| Max. Pressure: | 300 bar (2.1/4.6 mm ID) 200 bar (10 mm ID) |
| Port depth: | 3.3 mm (0.13") |



Fig. 26: Alycon SFC columns –
Waters type Port depth

Applicable to following products only

| Family | Modification | Particle Size |
|----------------|-----------------|--------------------|
| Alycon SFC | C18 | 5 μm |
| | PFP | 5 μm |
| | Diol-HILIC | 5 μm |
| | CN | 5 μm |
| | SIL | 5 μm |
| Alycon SFC CSP | Amylose-C (Neo) | 3, 5 μm |
| | Cellulose-C | 3, 5 μm |
| | Amylose-SA | 3, 5 μm |
| | Cellulose-SB | 3, 5 μm |
| | Cellulose-SC | 3, 5 μm |
| | Cellulose-SJ | 3, 5 μm |





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