

# Information for Clinical Choice Matrix and Support Document

## Intravenous Extension Sets

Information for Clinical Choice (ICC) has been developed to assist clinicians in the decision-making process when assessing the suitability of a product by providing a clear illustration and description of the features of a range of similar products supplied through NHS Supply Chain. The criteria provided, in the form of a Product Matrix and Support Document, is the result of a product review, conducted by DHLs Clinical Collaboration Team (CCT), with support from clinical stakeholders from across the NHS.

The aim, alongside delivering savings back into NHS frontline services, is to ensure that clinical choice remains at the forefront of any product switching decision.

### Intravenous Extension Sets

#### Intravenous administration tubing extension set

A collection of tubing and connectors intended to establish an extension of tubing where the standard length of the tubing in an intravenous (IV) administration set is insufficient. This is a single-use device.

#### Device Features:

##### Anti-syphon Valves

One way valve opens with higher crack pressure, effectively preventing accidental overdose from siphoning from pump or syringe

##### Pounds per square inch (PSI)

Pounds per square inch (PSI): measurement of pressure; one PSI equals 50mmHg or 68cm H<sub>2</sub>O<sup>1</sup>. Varying degrees of PSI are required based on the different clinical condition being treated and the infusion pump used. Higher PSI allows reliability in the delivery of rapid flow rates, for example, contrast media via a high-powered automated injector to improve diagnostic accuracy.







##### Material Lining









Low Sorbing sets for example polyethylene, are designed to minimise absorption of drugs into the matrix of tubing materials and prevent leaching (has inert internal surface). Drug sorption in intravenous tubing is a cause of unexpected drug loss in intravenous drug delivery<sup>2</sup>.



Gravity extension set single lumen 200 cm - 204 cm (Part 1)								
Supplier	B Braun	B Braun	B Braun	BD	BD	BD	BMS	BMS
Brand	Original perfuser line	Original perfuser line	Original perfuser line	Alaris	Sendal Prolonsend	Sendal Prolonsend	Critical Care	Critical Care
MPC	8723060	8722941	8722862	PB-G40720	PA-200	PA-200-GC	22-7200	25-7200
NPC	FSB611	FDC1109	FSB612	FKA610	FSB1373	FSB1189	FWL110	FWL065
Description	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection
Picture								
Route	Stocked	Blue Diamond	Blue Diamond	Stocked	eDirect	Stocked	Blue Diamond	Stocked
UOI	100	25	100	Eaches	200	Eaches	100	Eaches
Material lining	PE	PVC	PVC	PE	PVC	PVC	PE	PE
Sizes available	10 cm 25 cm 50 cm 100 cm 150 cm 250 cm 300 cm	150 cm	50 cm 150 cm 250 cm 300 cm	70cm 100cm 150cm	150cm	150cm	100 cm 150 cm	10 cm 150 cm
Latex-free	✓	✓	✓	✓	✓	✓	✓	✓
DEHP-free	✓	✓	✓	✓	✓	✓	✓	✓
Length (total)	200 cm	200 cm	200 cm	200 cm	204 cm	204 cm	200 cm	200 cm
Internal diameter	1.0 mm	0.9 mm	1.5 mm	1.0 mm	1.0 mm	1.0 mm	1.0 mm	1.0 mm
Priming volume of product	1.6 ml	1.3 ml	3.5 ml	1.6 ml	1.87ml	2.0ml	1.7 ml	1.7 ml
PSI	29 psi	29 psi	29 psi	579 psi	580 psi	580 psi	7.4 psi	7.4 psi
Clamp present	✗	Slide	✗	Pinch	✗	Slide	✗	Slide
Coloured cap (distal / proximal)	Opaque / Opaque	Opaque / Opaque	Opaque / Opaque	White / Opaque	White / Opaque	White / Opaque	White / Opaque	White / Opaque
Rotating distal collar	✗	✗	✗	✗	✗	✓	✓	✓
Country of manufacture	Germany	Germany	Germany	Tunisia	Spain	Spain	UK	UK






Gravity extension set single lumen 200 cm - 204 cm (Part 2)						
Supplier	Codan	Fannin Uk Ltd	GBUK	GBUK	Merit Medical	Medicina
Brand	P Pressure	Fannin	Prosum	Prosum	BD Connecta	HMC
MPC	71.4463	13129S	E11101200	E11201200	682192	M0612201TX
NPC	FSB1579	FFF914	FWL123	FWL132	FWM570	FFF931
Description	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection
Picture						
Route	Blue Diamond	Blue Diamond	Blue Diamond	Blue Diamond	Stocked	Blue Diamond
UOI	100	200	25	25	Eaches	100
Material lining	PVC	PE	PVC	PE	PE	PE
Sizes available	No further sizes available	25 cm 100 cm 150 cm	10 cm 30 cm 50 cm 75 cm 100 cm 150 cm	15 cm 30 cm 50 cm 75 cm 100 cm 150 cm 250 cm 300 cm	Information not provided	No further sizes available
Latex-free	✓	✓	✓	✓	Information not provided	✓
DEHP-free	✓	✓	✓	✓	✓	✓
Length (total)	200 cm	200 cm	200 cm	200 cm	200 cm	200 cm
Internal diameter	0.9 mm	1.0 mm	1.0 mm	1.0 mm	1.1 mm	1.0 mm
Priming volume of product	2.0 ml	1.7ml	2.02 ml	1.8 ml	Information not provided	1.57 ml
PSI	29 psi	800 psi	58 psi	58 psi	Information not provided	580 psi
Clamp present	Slide	✗	Slide	✗	✗	✗
Coloured cap (distal / proximal)	White / Opaque	White / Blue	White / Opaque	White / Opaque	White / White	White / Opaque
Rotating distal collar	✗	✓	✗	✗	✗	✓
Country of manufacture	Germany	India	China	China	Singapore	Italy

Gravity extension set single lumen 200 cm - 204 cm (Part 3)								
Supplier	Vygon	Vygon	Vygon	Vygon	Vygon	Wescott	Wescott	Wescott
Brand	Vygon Lectrocath	Vygon Lectrospiral	Vygon V -Green	Vygon V -Green	Vygon Lectroflex	Wescott	Prolong tube	Prolong tube
MPC	1155.20	1155.70	7.1100.20	71101.20	0222.20	SA70205	E37LLDF/200	E22308
NPC	FWL077	FWL062	FSC097	FWL048	FWL070	FKA127	FFF892	FFF1494
Description	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection	Gravity - Male / Female Luer lock connection
Picture								
Route	Stocked	Stocked	Stocked	Stocked	Blue Diamond	Stocked	Blue Diamond	Blue Diamond
UOI	Eaches	Eaches	Eaches	Eaches	25	Eaches	300	300
Material lining	PE	PE	PE	PE	PE	PE	PVC	PE
Sizes available	15 cm 30 cm 50 cm 100 cm 150 cm	100 cm 150 cm	10 cm 30 cm 50 cm 100 cm 150 cm	50 cm 100 cm 150 cm	25 cm 50 cm 100 cm 150 cm	No further sizes available	No further sizes available	No further sizes available
Latex-free	✓	✓	✓	✓	✓	✓	✓	✓
DEHP-free	✓	✓	✓	✓	✓	✓	✗	✗
Length (total)	200 cm	200 cm	200 cm	200 cm	200 cm	200 cm	200 cm	200 cm
Internal diameter	1.0 mm	1.0 mm	1.0 mm	1.5 mm	1.5 mm	1.0 mm	1.0 mm	1.0 mm
Priming volume of product	2.0 ml	2.0 ml	2.0 ml	3.6 ml	3.7 ml	1.5 ml	1.5 ml	1.57 ml
PSI	580 psi	580 psi	580 psi	580 psi	145 psi	Information not provided	Information not provided	Information not provided
Clamp present	✗	✗	✗	✗	✗	✗	✗	✗
Coloured cap (distal / proximal)	Red / White	Red / White	Red / White	Red / White	Red / White	White / Opaque	White / Opaque	Opaque / Opaque
Rotating distal collar	✗	✗	✗	✗	✓	✗	✗	✗
Country of manufacture	France	France	France	France	France	UK	Italy	Italy



Pump / antisiphon single lumen 200 cm – 208 cm									
Supplier	BD	BD	BMS	ICU medical	Mediplus	Vygon	Wescott	Wescott	Wescott
Brand	Alaris	BD	Critical Care	ICU medical	Mediplus	Vygon Protect-a-line	SAE-flo	SAE-flo MD	SAE-flo MD
MPC	MF2256	PA-200-V	30-7200	011-H1100-AS	6611	0832.211	PCA200S-G	WEPCA200AY	WEPCA200AS
NPC	FKA040	FKA447	FSB646	FSB2359	FSB2121	FSB1362	FFF891	FSB1176	FSB1177
Description	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection	Antisiphon / anti-reflux - Male / Female Luer lock connection	Antisiphon - Male / Female Luer lock connection
Picture									
Route	Stocked	Blue Diamond	Stocked	Blue Diamond	eDirect	Stocked	Blue Diamond	Stocked	Stocked
UOI	Eaches	200	Eaches	50	50	Eaches	32	32	32
Material lining	PE	PVC	PE	PE	PVC	PE	PVC	PE	PE
Sizes available	No further sizes available	150cm	150 cm	No further sizes available	No further sizes available	150 cm	No further sizes available	No further sizes available	150cm
Latex-free	✓	✗	✓	✓	✓	✓	✓	✓	✓
DEHP-free	✓	✗	✓	✓	✓	✓	✓	✓	✓
Length (total)	205 cm	204 cm	200 cm	208 cm	200 cm	200 cm	200 cm	200 cm	200 cm
Internal diameter	1.0 mm	1.0 mm	1.0 mm	1.5 mm	1.0 mm	1.0 mm	1.0 mm	1.3 mm	1.3 mm
Priming volume of product	2.0 ml	2.0 ml	1.7 ml	4.1 ml	1.19 ml	1.8 ml	2.1 ml	3.9 ml	3.15 ml
PSI	36 psi	44 psi	7.4 psi	Not available	44 psi	29 psi	Information not provided	Information not provided	Information not provided
Clamp present	Pinch	✗	Slide	✗	Pinch	Pinch	Pinch	Pinch	Pinch
Coloured cap (distal / proximal)	White / Blue	Opaque / Opaque	White / Opaque	Opaque / Opaque	Red / Red	Opaque / Opaque	White / Opaque	Blue / White	White / Opaque
Country of manufacture	Malta	Spain	UK	USA	UK	Columbia	UK	UK	UK



Gravity extension set single lumen 3-4mm ID			
Supplier	Fannin UK Ltd	GBUK	GBUK
Brand	Fannin	Prosum	Prosum
MPC	13189S	E14101200	E13101200
NPC	FFF917	FWL137	FWL133
Description	Standard - Male/ Female Luer lock connections low pressure	Standard - Male/ Female Luer lock connections low pressure	Standard - Male/ Female Luer lock connections low pressure
Picture			
Route	Blue Diamond	Blue Diamond	Blue Diamond
UOI	100	50	50
Material Lining	PVC	PVC	PVC
Sizes available	25 cm 100 cm 150 cm	30cm 50cm 100cm 150cm 200cm 300cm	30cm 50cm 100cm 150cm 200cm 300cm
Latex-Free	✓	✓	✓
DEHP-Free	✓	✓	✓
Length (total)	200 cm	200 cm	200 cm
Internal Diameter	3.0 mm	4.0 mm	3.0 mm
Priming volume of product	Information not Provided	25.3 ml	13.8 ml
PSI	65 psi	58 psi	58 psi
Clamp present (slide/pinch/roller)	✗	✗	✗
Coloured Cap	White / Blue	White / Opaque	White / Opaque
Anti-reflux valve	✗	✗	✗
Rotating distall collar	✗	✗	✓
Country of manufacture	India	China	China

**References:**

1. Royal College of Nursing (RCN). 2016. Standards for Infusion Therapy. 4th Edition.
2. Jin, S., You, S., Jeon, S., Byon, H. and Hwang, S., 2017a. Evaluation of Drug Sorption to PVC- and Non-PVC-based Tubes in Administration Sets Using a Pump. Journal of Visualized Experiments: JoVE, [e-journal] (121) 10.3791/55086. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5408709/>> [Accessed Aug 19, 2021].

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