

Direct Hit_® is about knowledge we have acquired, from unblocking over 35,000 blocked drains, expressed through design and quality of product.

We make carriages that fit accessories, so you can create your own assembly to make unblocking of drains faster, easier and more profitable.

All parts used are made from stainless steel. We use the highest quality reverse turbo nozzles that we can find around the world. These nozzles produce high quality laminar water (ceramic and steel jets produce turbulent water) and with our testing we found that they cut roots fast. They vibrate for better impact, they work with water temperatures up to 180° F or 82° C, last five times longer than any other rotating nozzle, they have tungsten carbide seats and stainless steel bodies.

These turbo nozzles cut roots fast.

Our assemblies are designed to travel parallel to the bottom of the line (it is easier to penetrate roots on the bottom of the line), at a specific angle from 0° to whatever degree you specify to travel down or up a 50, 100, 150 or 225 mm (2"-4"-6"-9"- 12") line.

The less length the laminar jet cone of water has, the better it cuts.

Direct Hit® carriages are designed to direct the water jet cone to the best possible angle of attack without the operator twisting and turning. The carriages are assembled with different nozzles and various accessories to create different points of attack.

The accessories are designed to interchange with all our assemblies.

We have used and tested our assemblies at 5000psi for over three years without any breakdowns or maintenance required.

By understanding your nozzle assemblies and how they work, it will cut down your operating time on the job by half. It enables you to become more efficient, knowledgeable, relaxed, energetic and be more profitable.

Profitable you say?

If you halve your operating time, how much money will you save?

If you halve your expenses on fuel, repairs on equipment (jetter, hoses and camera), injuries on you and your staff (less medical bills and days off), how much money will you save?

If you do not need to upgrade your jetter, but upgrade only to a new nozzle assembly, how much money will you save?

If you add all the above savings, how much money will you save and how will it change your life style?

Do you want to change your lifestyle so as to have more money in your pocket or work less hours and have more time to be with family and friends?

Now what if you add one or two extra jobs to the day, that previously you may have lost because jobs took more time to finish, how much more money can you add to your savings?

The choice is yours.

Do the math, purchase one of our products and you will end up with a smile on your face.

Patent Pending Numbers: AU 2017268682 - EU 12762844.4

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Why our assemblies work better & last longer

To unblock sewer or rain water drains with a water jet your toolbox needs a penetrator and a cutter.

Direct hit has designed Carriages that you can install various accessories to create assemblies for different points of attack.

To be able to maximize your cutting power your high-pressure water pump is producing our nozzles use Laminar water. The water has minimum turbulence therefore the water is stronger allowing you to cut tree roots easier.

All assemblies have been designed to travel at the bottom of the line where the tree root is at its weakest point. You can also unblock a wipe blockage with ease this way.

The assemblies are designed to be able to adjust the angle of the front or back of the turbo nozzle to increase the cutting power of laminar water. This is achieved by adding a 100mm (4") or 150mm (6") to the assembly and adjusting it to the front or back of the nozzle depending on the angle needed. The accessories also inter connect with other carriages.

Our turbo nozzles are made from stainless steel and have tungsten carbide seats and rotors. They can last 5 times longer than a ceramic seated turbo nozzle.

Understanding the two categories of assemblies

1. Penetrators

The **R Range Penetrators**: These assemblies resemble a **R**ocket. They are designed to penetrate, cut and flush out debris with the front turbo nozzle. (If traveling downstream a 150mm (6") line and dropping into a 150mm (6") shaft). The rear jets are used to thrust you there and to flush out the debris in any line if you are traveling up stream.

The **RS Penetrators:** These assemblies resemble a **Rocket** but are shorter. They are designed to penetrate, cut and flush out debris with the front turbo nozzle. (If traveling downstream a 150mm (6") line and dropping into a 150mm (6") shaft). The rear jets are used to thrust you there and to flush out the debris in any line if you are traveling up stream.

2. Penetrators and Cutters

The DC Range Penetrators and Cutters: These Carriages have a Dual hose water supply. This enables them to be adjusted in the front and back. These assemblies are designed to penetrate and cut out the debris (if traveling downstream in a 100mm (4") line and dropping into a 100mm (4") shaft) The rear turbo nozzle is used to thrust you there, cut and flush out the debris in the line. They also inter connect with other assemblies.

How to Choose your Assembly:

- 1. Which group does your jetter come under?
- 2. Which assembly will work with your jetter?

To choose and order the appropriate assembly you will need the following information.

- 1. Your pump's pressure in Psi or Bar
- 2. Your pump's output in Litres or Gallons per minute
- 3. Your hose thread connection size (1/4-3/8-1/2) that you connect to your nozzle
- 4. Do you want cutting power or to go further (thrust)?

Once you have your PUMP specifications (for example, 5000psi @21 liters per minute or 5.5 gpm) you can choose from a large range of assembly that will suit your specific application.

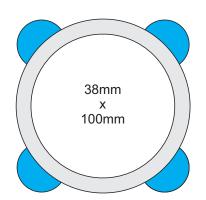
Note: If you do not find what you need do not hesitate to contact us at Direct Hit. We can build you a custom carriage or accessories for your specific requirements.

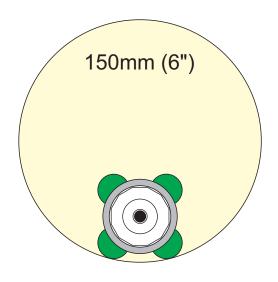
There are three jetter groups:

- 1. UNDER 21 LITRES PER MINUTE OR UNDER 5.5 G/M
- a. Which assemblies work in 100 and 150 mm lines go to page 18-19
- 2. UNDER 34 LITRES PER MINUTE OR UNDER 8 G/M
- a. Which assemblies work in 100 mm (4") lines go to page 22-27
- b. Which assemblies work in 150 mm (6") lines go to page 29-39
- 3. OVER 34 LITRES PER MINUTE OR OVER 8 G/M
- a. Which assemblies work in 100 mm (4") lines go to page 42-47
- b. Which assemblies work in 150 mm (6") lines go to page 49-59

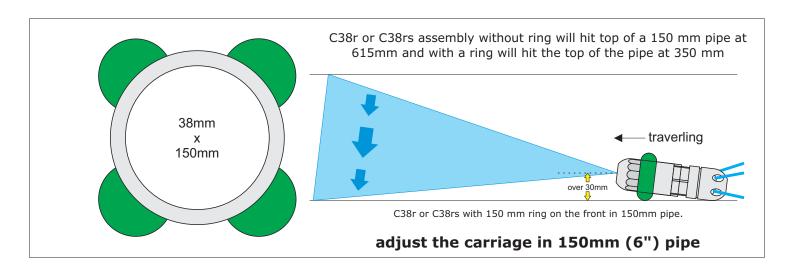
Note: Before you go to the page, check out page 11 to 16. The diagrams will give you an understanding on how the assemblies work.







38mm Aluminum rings for front turbo nozzle

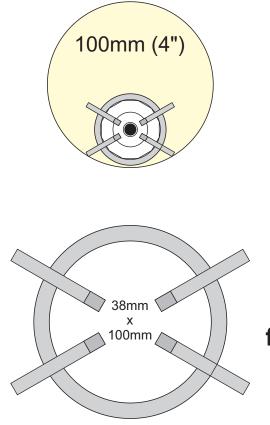


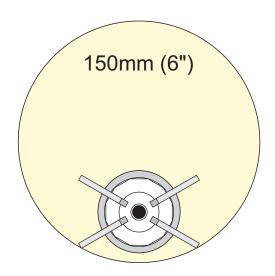
Benefits:

- 1. Finishing tool for cutting difficult roots, cleaning fat or mineral deposits on the wall of the pipe
- 2. It can cut roots around a bend or drop into the bottom bend of a shaft and cut through
- 3. Can unblock a partially collapsed:
 - a. pipes or pipe at the shaft
 - b. main bend on main junction
- 4. 150mm (6") ring can go through a 100mm (4") pipe.

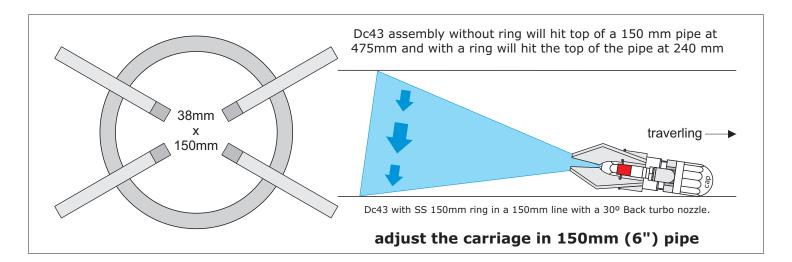
Note:

Due to the angle of the turbo jet as shown on the drawing above, using the 150mm (6") ring the assembly will be 30 mm (1 1/4) higher from the bottom and the top angle of the water jet.





43mm Stainless Steel Rings for front or back turbo nozzles



Benefits:

- 1. Finishing tool for cutting difficult roots, cleaning fat or mineral deposits on the wall of the pipe
- 2. It can cut roots around a bend or drop into the bottom bend of a shaft and cut through
- 3. a 150mm (6") ring can **NOT** go through a 100mm (4") pipe.

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Which assemblies to use in 100-150 mm (4"-6") lines when your jetter is rated



Under 21 I/min or 5.5 gpm



Due to the low volume of water our DC38 assembly can be used as a finish tool to flush out the line or to cut roots out of the line.

Step 1

Use your current nozzles to penetrate and create a passage for our assemblies to go through. You can use the C38rs but you may have lower thrust.

Step 2

Use the DC38 cap to back or the DC38 cap to back with ring adjustment to flush out or to cut roots from lines.

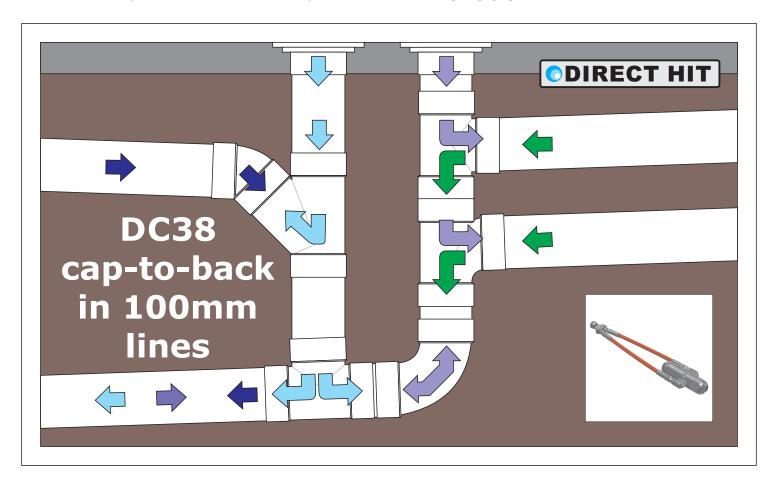
Actual Size of DC38 Cutter Assembly

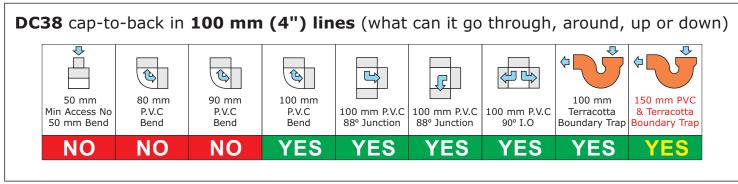
Used in 100mm DC38 (4") and 150mm (6") lines front cap and back 18° or 24° SS reverse turbo nozzle with tungsten carbide seat Under 21 l/min or 5.5 gpm PCT/AU2012/000326 BACK TURBO NOZZLE **18**° or **24**° 24° scaled down cap with back turbo nozzle You can add a 150-300mm ring.

Under 21 I/min (5.5gpm) in 100-150 mm (4"-6") lines

DC38 cap-to-back (front ring cap with back reverse turbo nozzle) Penetrate Cut Unblock Remove Put Clean Ice Clean Adjust drain manholes, tree roots tree roots grease, sand in assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The DC38 cap-to-back works in any of the 100mm (4") pipe combinations shown below.





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Which assemblies to use in 100 mm (4") lines when your jetter is rated at:

Under 31 l/min or 8 gpm

Under 31 I/min or 8 gpm



Step 1

Use the C38rs or C43rs to penetrate, unblock, cut and flush out the debris up stream or down stream.

With the C38rs and C43rs, you only need a 50 mm (2") entry point.

Note: If the jetter is 4300 Psi @ 31 l/min or higher, you can use the DC38 back to back turbo nozzle assembly first go.

Step 2

If you find with the CCTV that the tree roots have not been all cut, use the DC38 cap to back turbo nozzle on its own or with ring adjustment.

This assembly cuts dead roots.

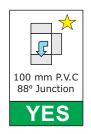
Actual Size of C38rs and C43rs Penetrator Assemblies

The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles. Rings can be used to adjust the front.

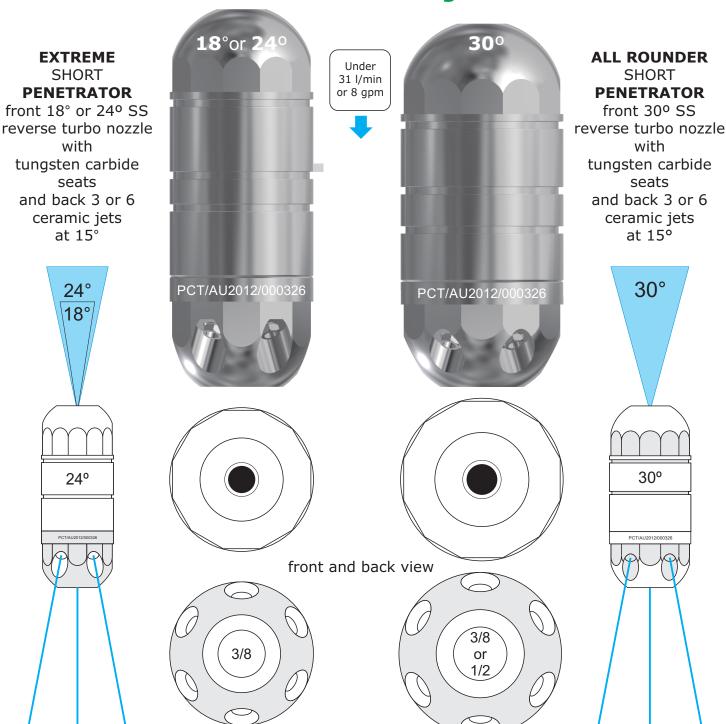








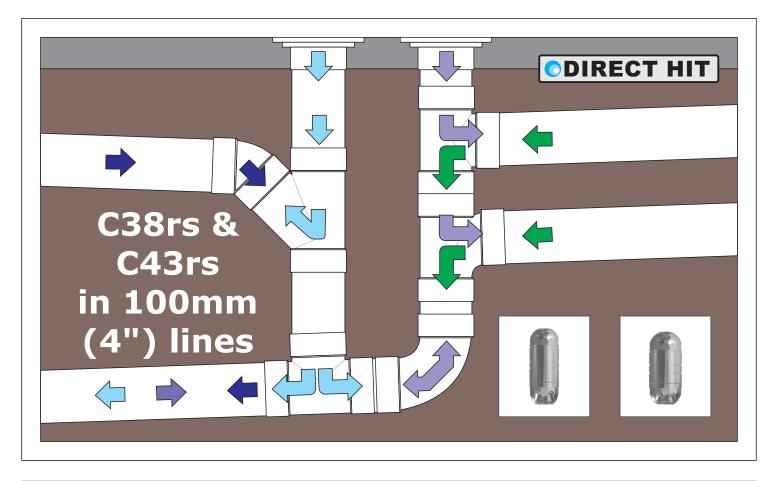
The safest way entering an unknown blockage

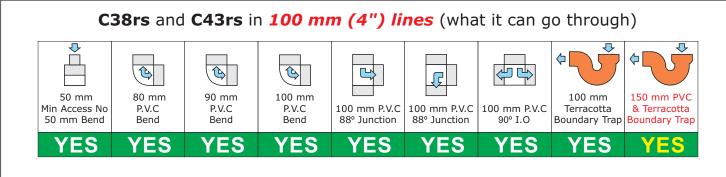


Under 31 I/min (8 gpm) in 100mm (4") lines

C38rs and **C43rs** in 100mm lines (cut with front turbo nozzle) Penetrate Unblock Put Ice Clean Clean Unblock Remove Adjust drain & cut blockages grease, sand in manholes, assembly а tree roots from **SMILE** drains walls caused shafts, pits to suit soap **FAST** by etc. lines & on your & hydro 100 & **WIPES** grates face excavate 150 lines YES YES YES YES YES YES YES NO Penetrate, cut, clean and adjust assembly front turbo nozzle only

The C38rs & C43rs works in any of the 100mm (4") pipe combinations shown below.





Actual Size of a Heavy Duty C38rs & C43rs Penetrators

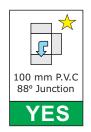
The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream.

A 50mm (2") access point can be used with both nozzles. **Heavy Duty Protection**.









The safest way entering an unknown blockage

or Under

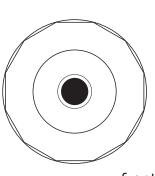
31 l/min

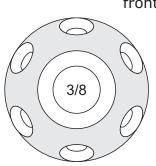
or 8 gpm

EXTREME HD SHORT PENETRATOR front 18° or 24° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15°

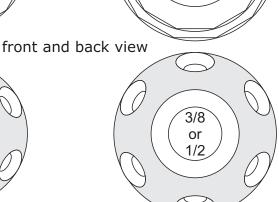








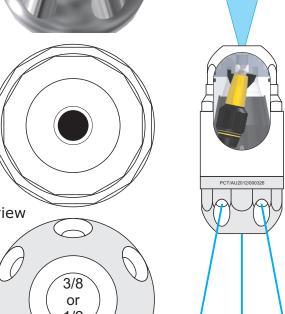




ALL ROUNDER HD SHORT PENETRATOR

front 30° SS
reverse turbo nozzle
with
tungsten carbide
seats
and back 3 or 6
ceramic jets
at 15°

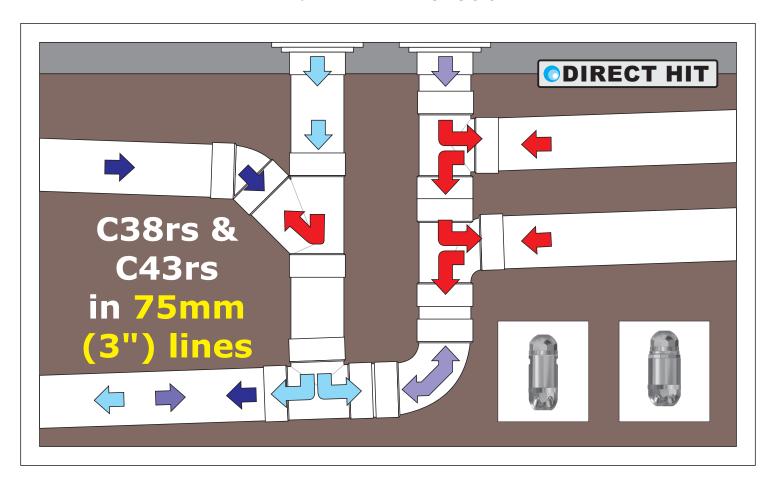
30°

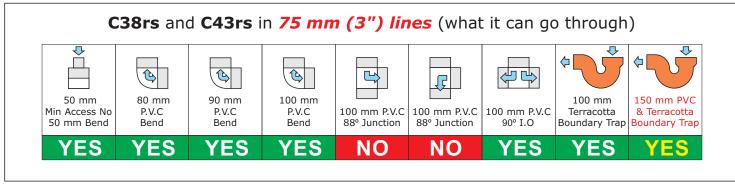


Under 31 I/min (8 gpm) in 75mm (3") lines

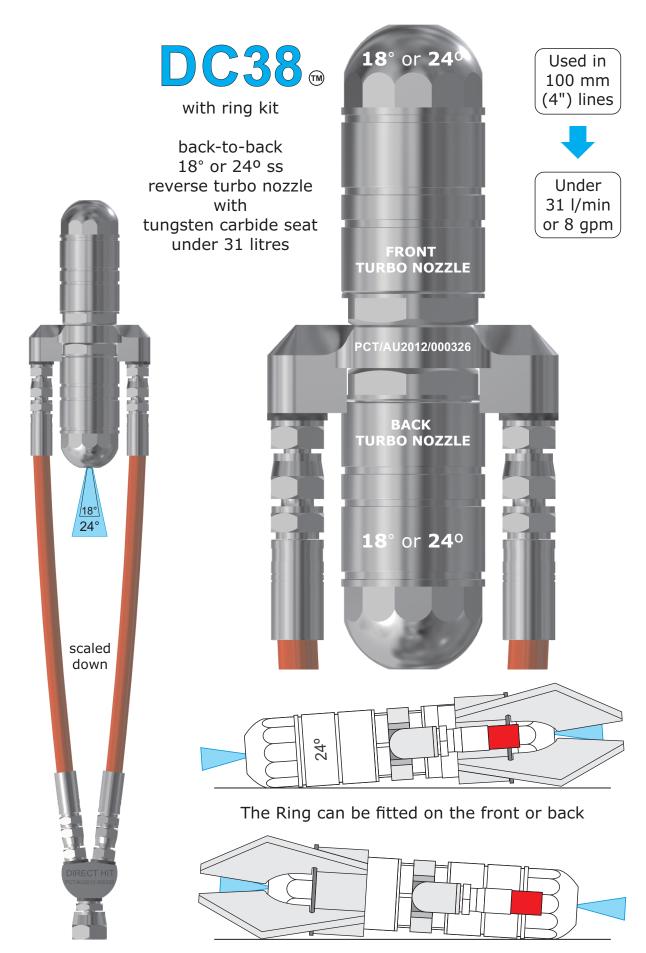
C38rs and **C43rs** in 100mm lines (cut with front turbo nozzle) Penetrate **Unblock** Put Clean Clean Unblock Remove Ice Adjust drain & cut blockages grease, sand а in manholes, assembly tree roots **SMILE** drains walls caused from shafts, pits soap to suit **FAST** by etc. lines & on your & hydro 100 & **WIPES** grates face excavate 150 lines YES YES YES YES YES YES YES NO Penetrate, cut, clean and adjust assembly front turbo nozzle only

The C38rs & C43rs works in any of the 75mm (3") pipe combinations shown below.





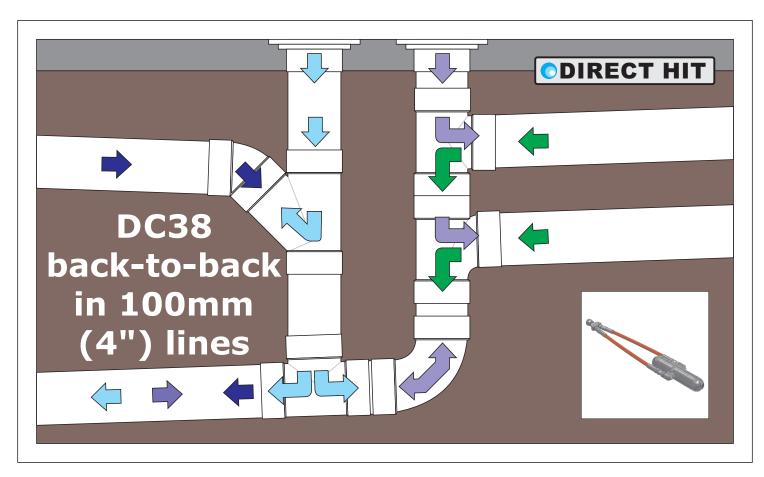
Actual Size of DC38 Penetrator and Cutter Assembly

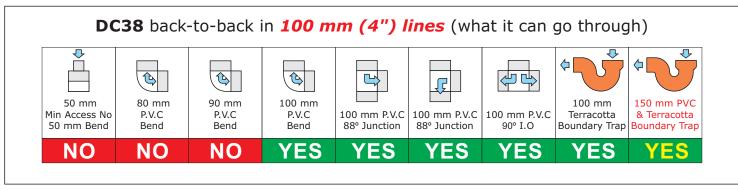


Under 31 I/min (8 gpm) in 100mm (4") lines

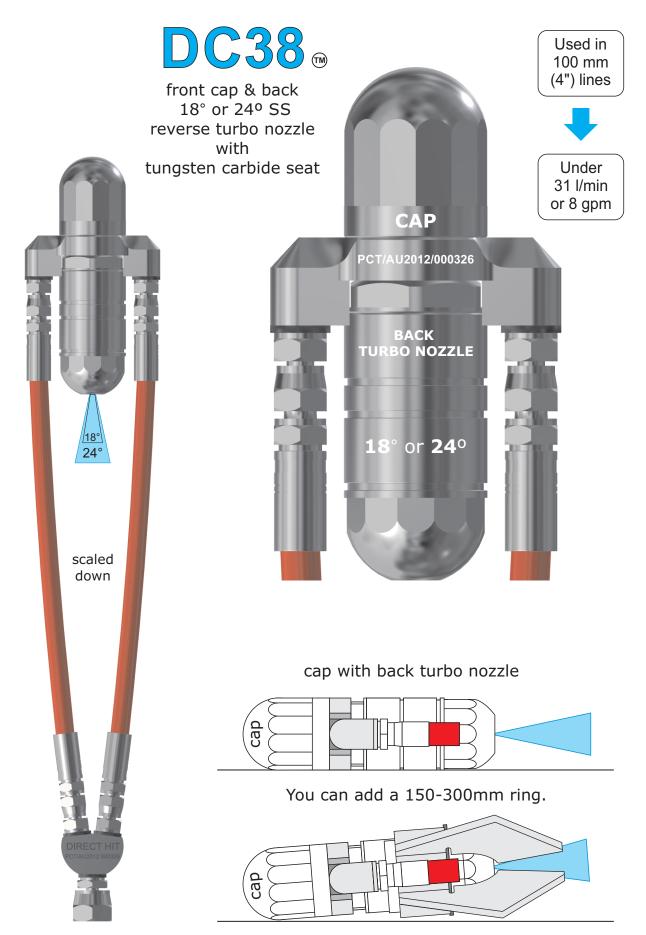
DC38 back-to-back (front and back reverse turbo nozzles) Penetrate Cut Unblock Put Ice Clean Remove Clean Adjust drain tree roots tree roots grease, sand а in manholes, assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES YES YES YES YES YES YES YES YES

The DC38 back-to-back works in any of the 100mm (4") pipe combinations shown below.





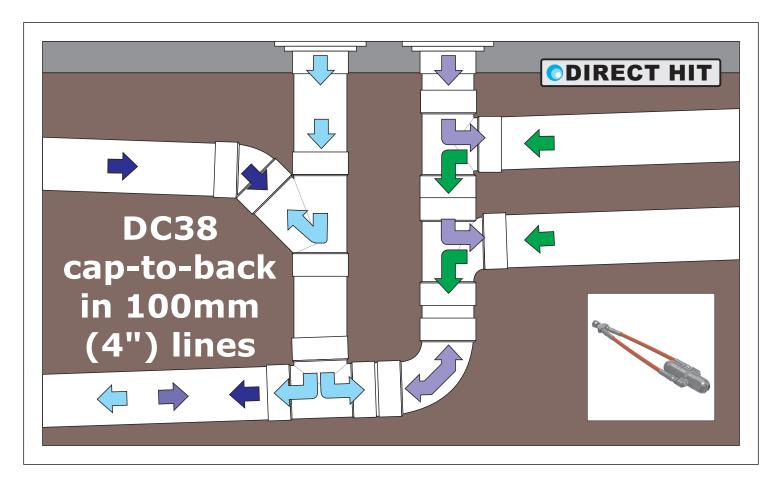
Actual Size of DC38 Cutter Assembly

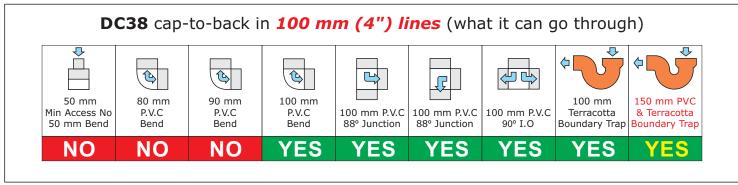


Under 31 I/min (8 gpm) in 100mm (4") lines

DC38 cap-to-back (capped front and back reverse turbo nozzle) Penetrate Cut Unblock Put Ice Clean Clean Remove Adjust drain tree roots tree roots grease, sand in manholes, assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The DC38 cap-to-back works in any of the 100mm (4") pipe combinations shown below.





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Which assemblies to use in 150 mm (6") lines when your jetter is rated at:

Under 31 l/min or 8 gpm

Under 31 I/min or 8 gpm



Step 1

Use the C38rs, C43rs, C38r or C43r to penetrate, unblock, cut and flush out the debris up stream or down stream.

With the C38rs, C43rs, C43r or C43rs you only need a 50 mm (2") entry point.

Note: If the jetter is 4300 Psi @ 31 l/min (10 gpm) or higher, you can use the DC43 back to back turbo nozzle assembly first go.

Step 2

If you find with the CCTV that the tree roots have not been all cut, use the DC43 cap to back turbo nozzle on its own or with ring adjustment.

This assembly cuts dead roots.

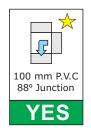
Actual Size of C38rs and C43rs Penetrator Assemblies

The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles. Rings can be used to adjust the front.

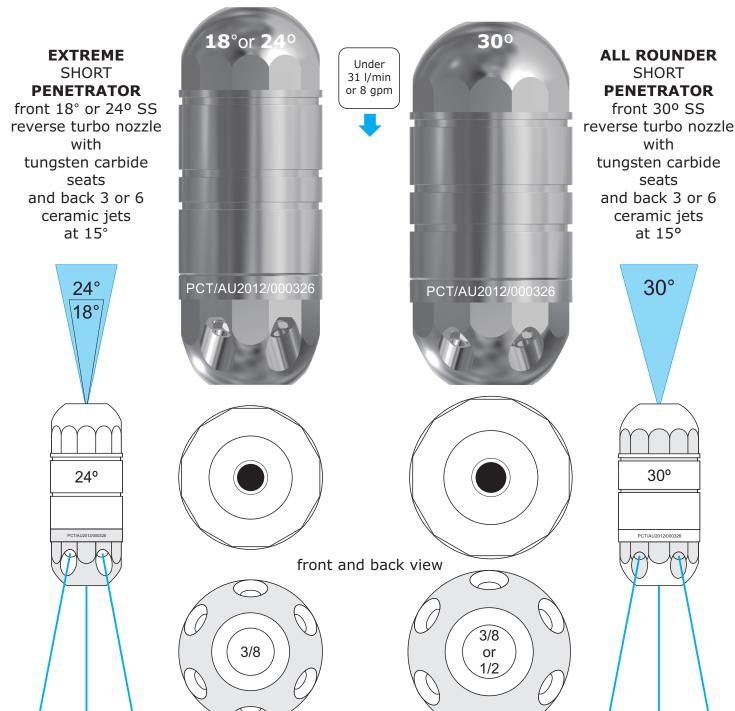




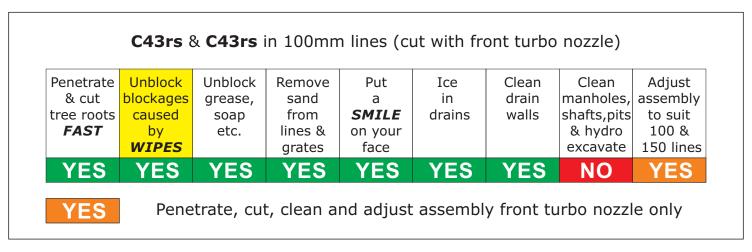




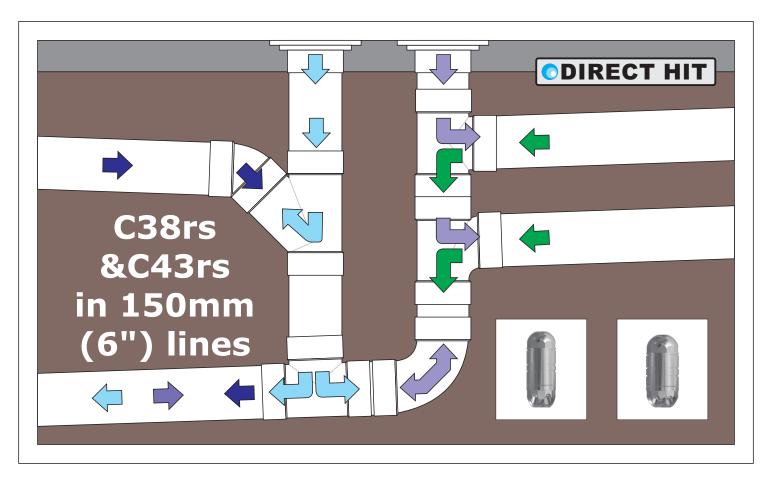
The safest way entering an unknown blockage

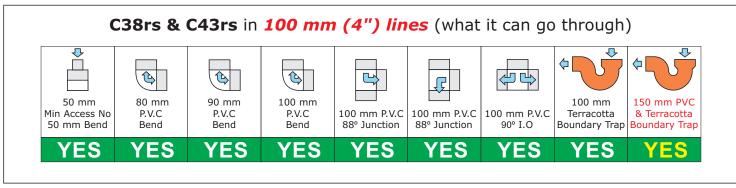


Under 31 I/min (8 gpm) in 150mm (6") lines



The **C43rs** works in any of the **150mm (6") pipe** combinations shown below.





Actual Size of a Heavy Duty C38rs & C43rs Penetrators

The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles. **Heavy Duty Protection**.







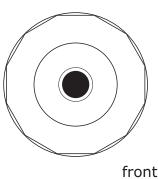


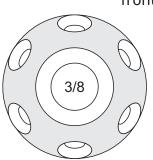
The safest way entering an unknown blockage

FXTREME HD SHORT PENETRATOR front 18° or 24° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15°

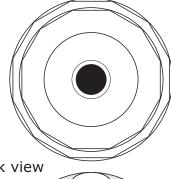


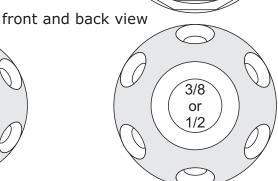








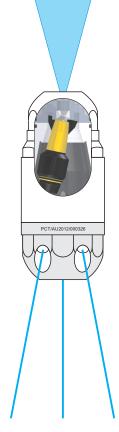




ALL ROUNDER HD SHORT PENETRATOR

front 30° SS
reverse turbo nozzle
with
tungsten carbide
seats
and back 3 or 6
ceramic jets
at 15°

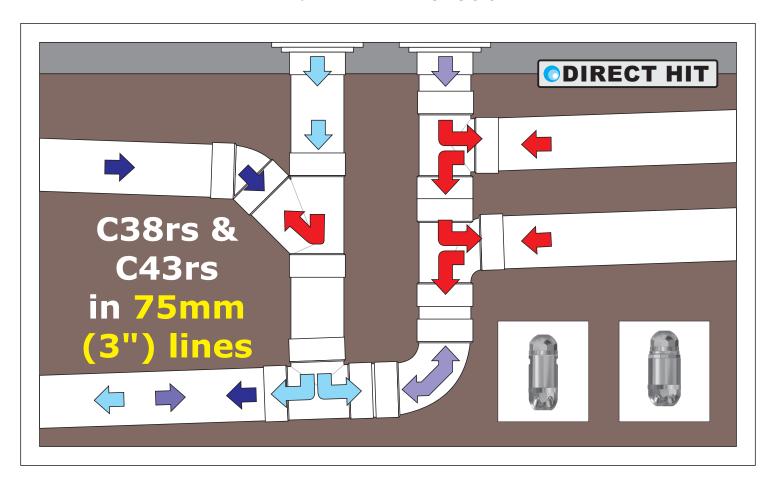
30°

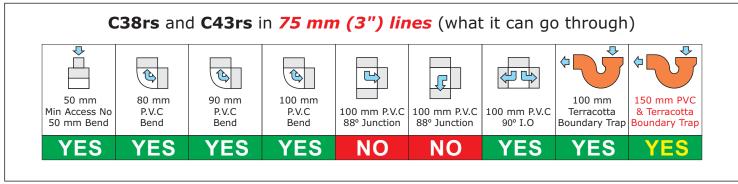


Under 31 I/min (8 gpm) in 75mm (3") lines

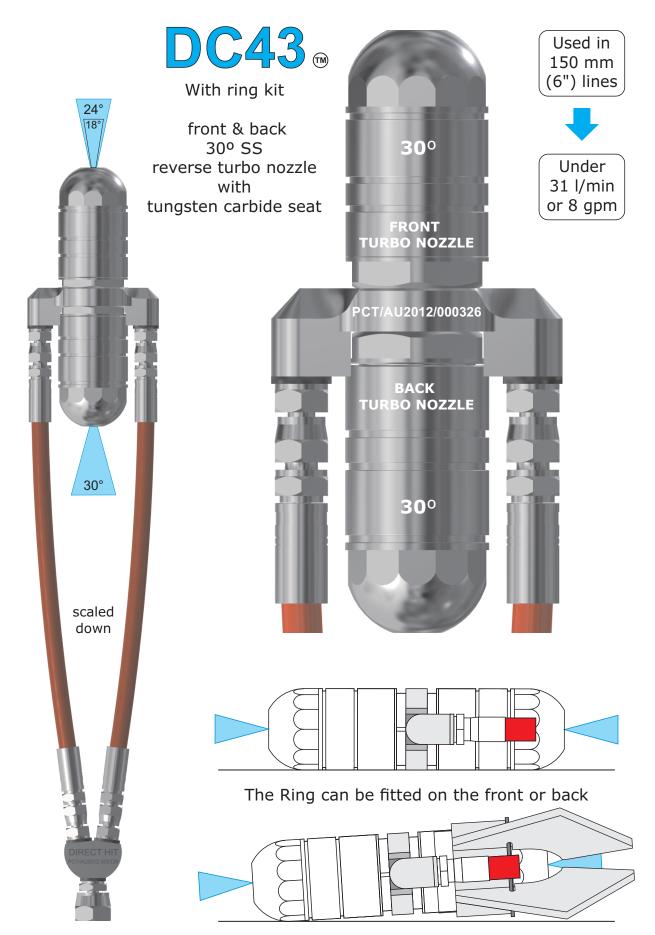
C38rs and **C43rs** in 100mm lines (cut with front turbo nozzle) Penetrate **Unblock** Put Clean Clean Unblock Remove Ice Adjust drain & cut blockages grease, sand а in manholes, assembly tree roots **SMILE** drains walls caused from shafts, pits soap to suit **FAST** by etc. lines & on your & hydro 100 & **WIPES** grates face excavate 150 lines YES YES YES YES YES YES YES NO Penetrate, cut, clean and adjust assembly front turbo nozzle only

The C38rs & C43rs works in any of the 75mm (3") pipe combinations shown below.





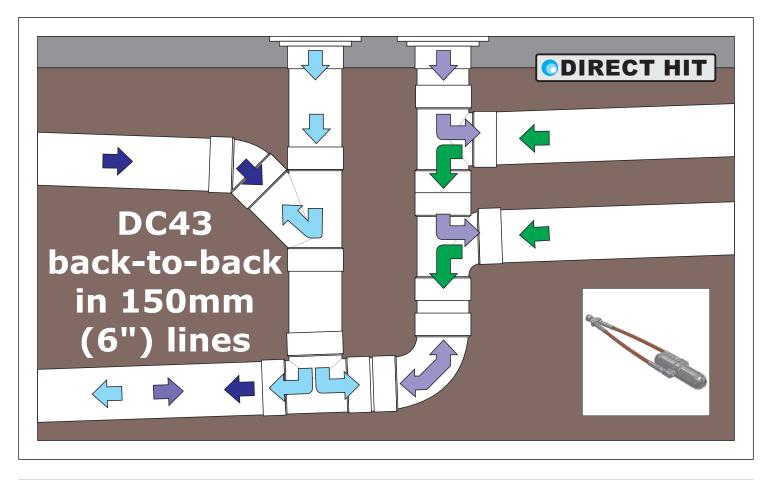
Actual Size of DC43 Penetrator and Cutter Assembly

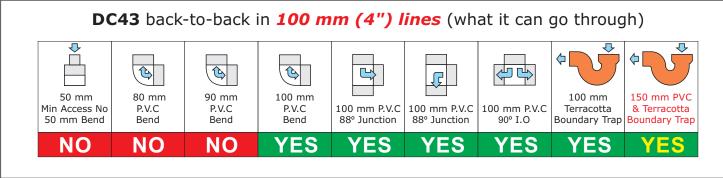


Under 31 I/min (8 gpm) in 150mm (6") lines

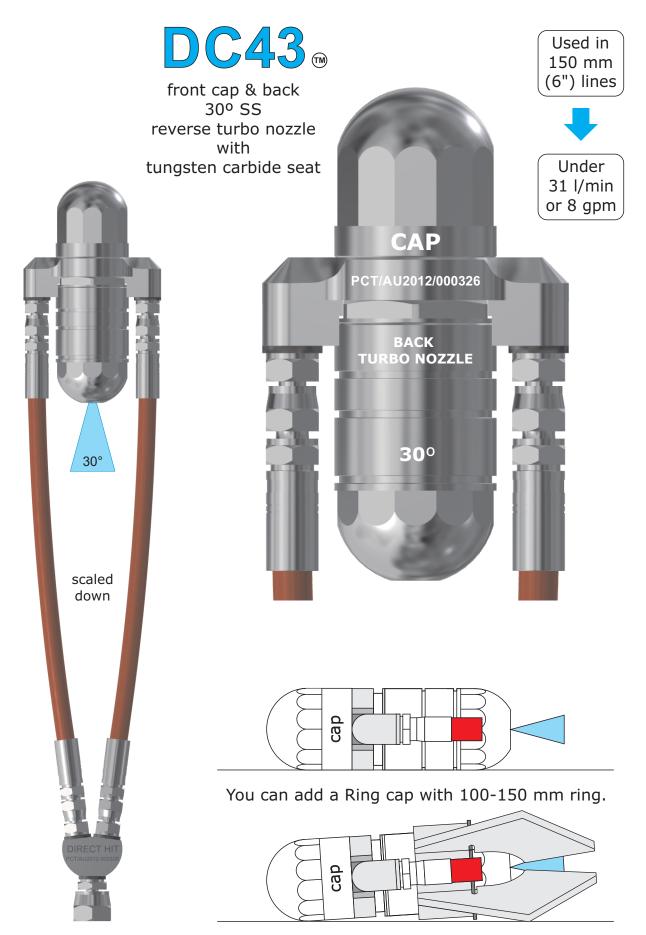
DC38 back-to-back (front and back reverse turbo nozzles) Penetrate Cut Unblock Put Clean Remove Ice Clean Adjust drain tree roots tree roots grease, sand а in manholes, assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES YES YES YES YES YES YES YES YES

The **DC43** back-to-back works in any of the **150mm (6") pipe** combinations shown below.





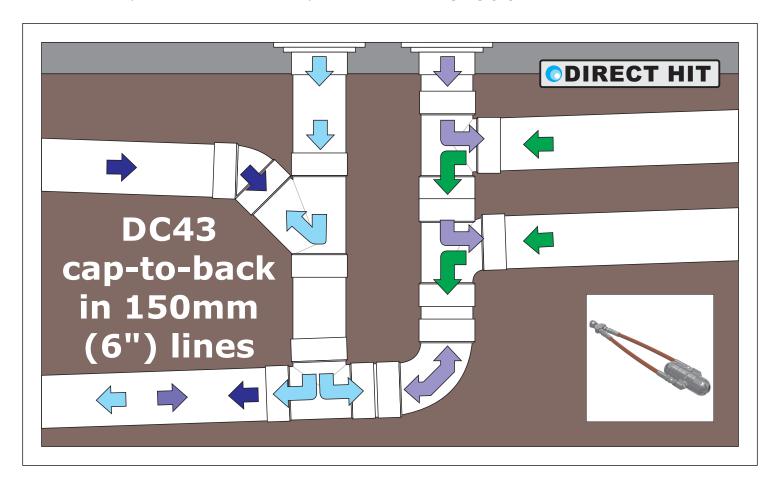
Actual Size of DC43 Cutter Assembly

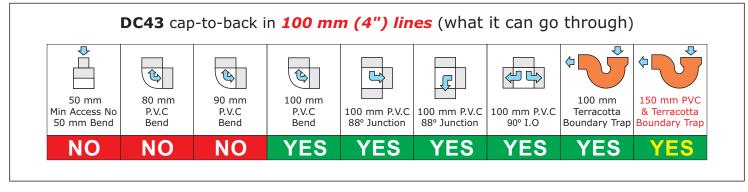


Under 31 I/min (8 gpm) in 150mm (6") lines

DC43 cap-to-back (capped front and back reverse turbo nozzle) Penetrate Cut Unblock Put Ice Clean Clean Remove Adjust drain tree roots tree roots grease, sand in manholes, assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The **DC43** cap-to-back works in any of the **150mm (6") pipe** combinations shown below.





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Which assemblies to use in 100 mm (4") lines when your jetter is rated at:

Over 31 l/min or 8 gpm

Over 31 I/min or 8 gpm



Step 1

Use the C38rs or the C43rs to penetrate, unblock, cut and flush out the debris up stream or down stream.

With the C38rs and C43rs, you only need a 50 mm (2") entry point.

Note: You can use the DC43T back to back turbo nozzle assembly first go.

Step 2

If you find with the CCTV that the tree roots have not been all cut, use the DC43T cap to back turbo nozzle on its own or with ring adjustment.

This assembly cuts dead roots.

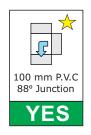
Actual Size of a Heavy Duty C38rs & C43rs Penetrators

The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles. **Heavy Duty Protection**.









The safest way entering an unknown blockage

or Under

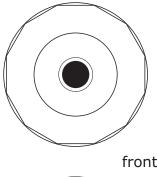
31 l/min

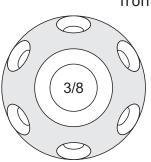
or 8 gpm

EXTREME HD SHORT PENETRATOR front 18° or 24° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15° 24° 18°

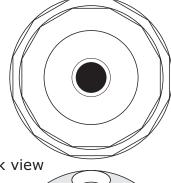


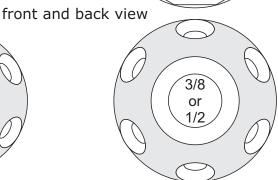








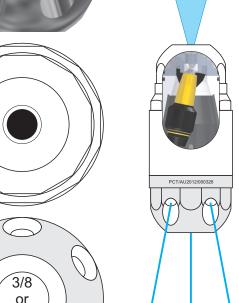




ALL ROUNDER HD SHORT PENETRATOR

front 30° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15°

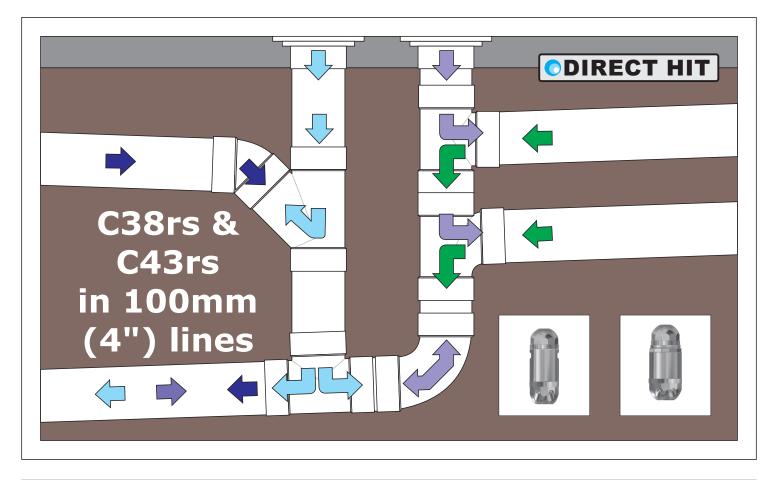
30°

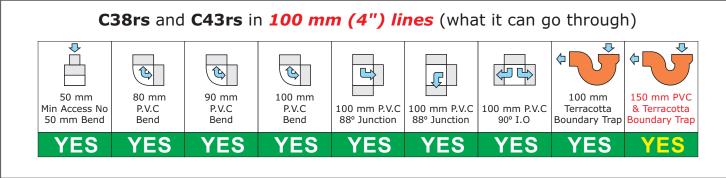


Over 31 I/min (8 gpm) in 100mm (4") lines

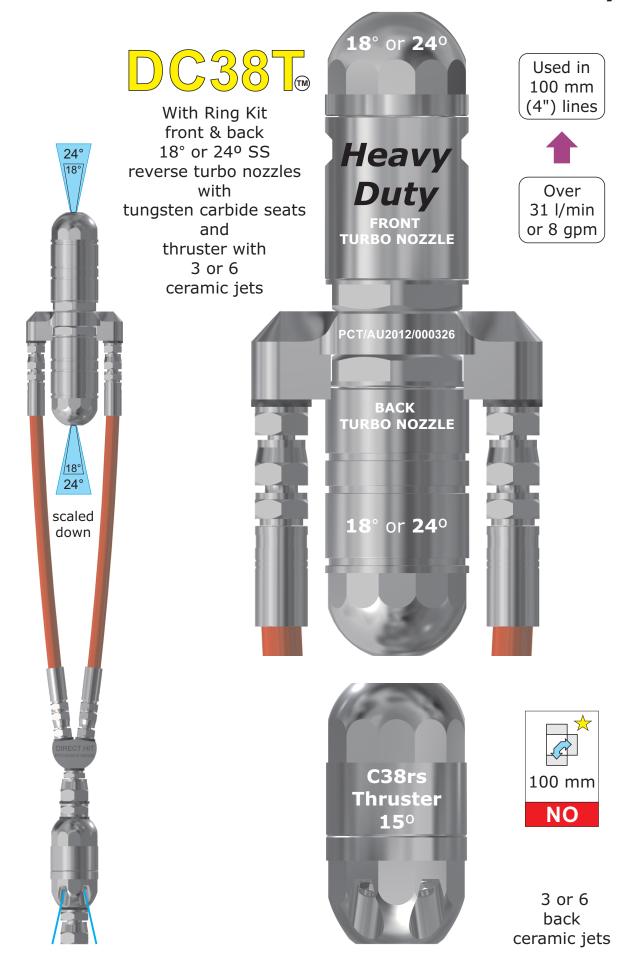
C38rs and C43rs in 150mm lines (cut with front turbo nozzle) Penetrate Unblock Put Clean Clean Unblock Remove Ice Adjust drain & cut blockages grease, sand in manholes, assembly а tree roots from **SMILE** drains walls caused shafts, pits to suit soap **FAST** by etc. lines & on your & hydro 100 & **WIPES** grates face excavate 150 lines YES YES YES YES YES YES YES NO Penetrate, cut, clean and adjust assembly front turbo nozzle only

The C38rs & C43rs works in any of the 100mm (4") pipe combinations shown below.





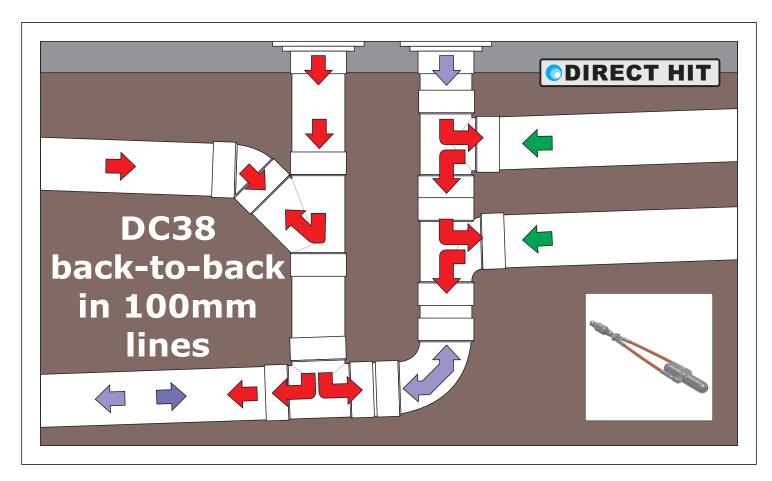
Actual Size of a DC38T Penetrator-Cutter Assembly

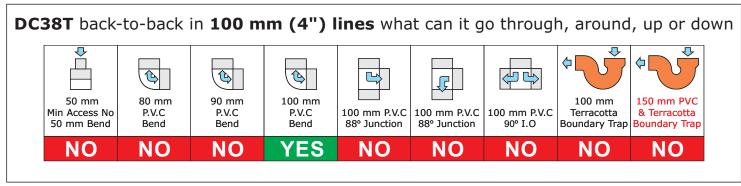


Over 31 I/min (8 gpm) in 100mm (4") lines

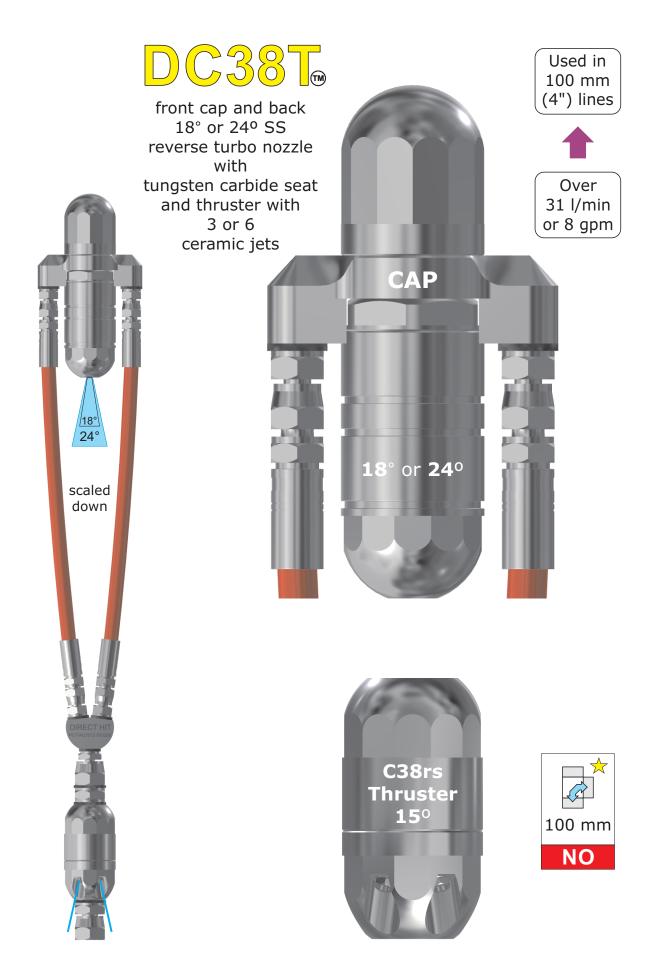
DC38T back-to-back (front ring cap with back reverse turbo nozzle) Penetrate Cut Unblock Remove Put Ice Clean Clean Adjust tree roots tree roots drain manholes, grease, sand in assembly а **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The **DC38T** back-to-back works in any of the **100mm (4") pipe** combinations shown below.





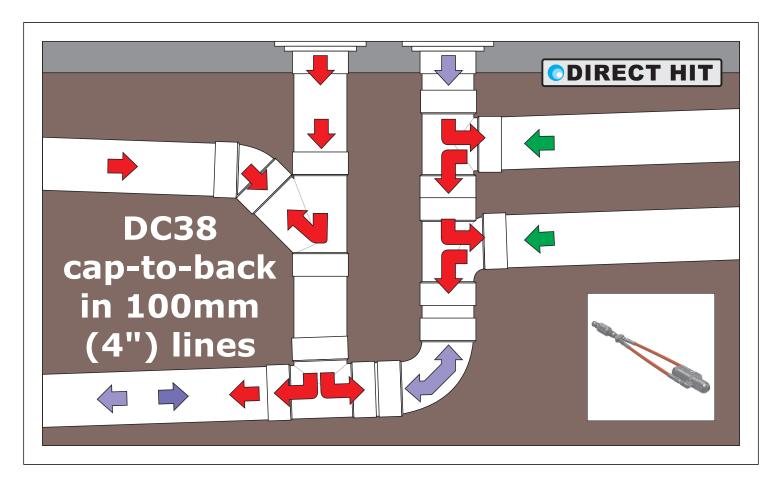
Actual Size of DC38T Cutter Assembly

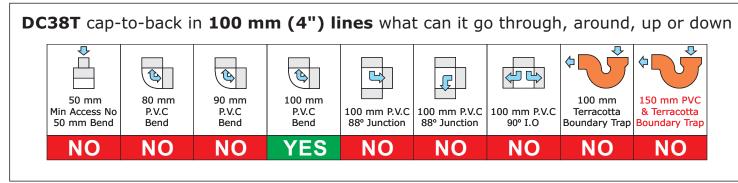


Over 31 I/min (8 gpm) in 100mm (4") lines

DC38T cap-to-back (front ring cap with back reverse turbo nozzle) Penetrate Cut Unblock Remove Put Ice Clean Clean Adjust tree roots tree roots drain manholes, grease, sand in assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The DC38T cap-to-back works in any of the 100mm (4") pipe combinations shown below.





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Which assemblies to use in 150 mm (6") lines when your jetter is rated at:

Over 31 l/min or 8 gpm

Over 31 I/min or 8 gpm



Step 1

Use the C38rs, C43rs, C38r or C43r to penetrate, unblock, cut and flush out the debris up stream or down stream.

With the C38rs, C43rs, C38r or C43r, you only need a 50 mm (2") entry point.

Note: You can use the DC43T back to back turbo nozzle assembly first go.

Step 2

If you find with the CCTV that the tree roots have not been all cut, use the DC43T cap to back turbo nozzle on its own or with ring adjustment.

This assembly cuts dead roots.

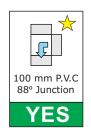
Actual Size of a Heavy Duty C38rs & C43rs Penetrators

The C38rs and C43rs are used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles. **Heavy Duty Protection**.









The safest way entering an unknown blockage

or Under

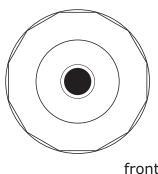
31 l/min

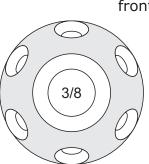
or 8 gpm

EXTREME HD SHORT PENETRATOR front 18° or 24° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15° 24°

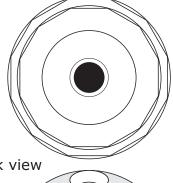


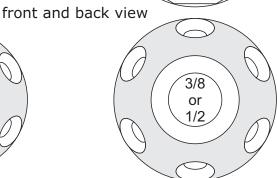








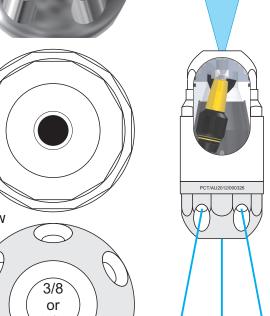




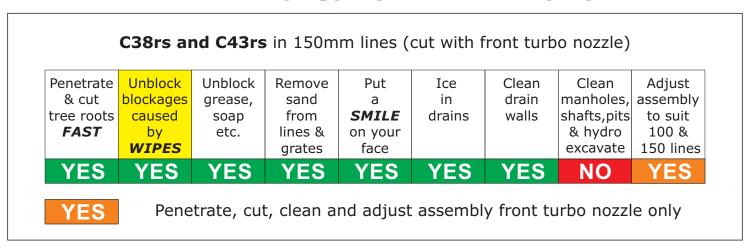
ALL ROUNDER HD SHORT PENETRATOR

front 30° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 15°

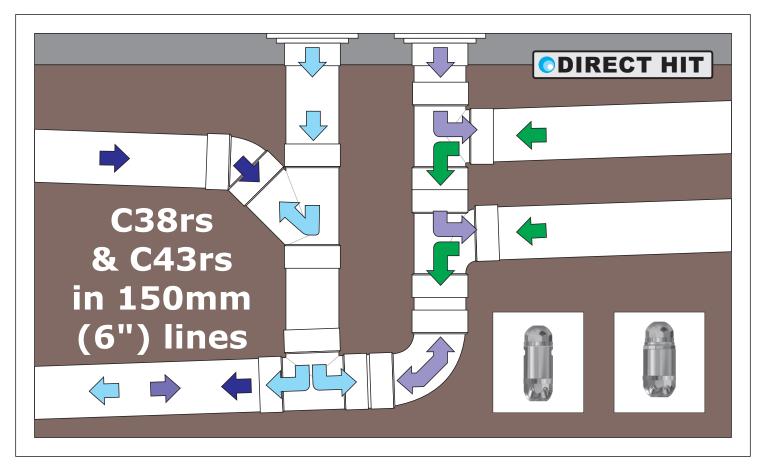
30°

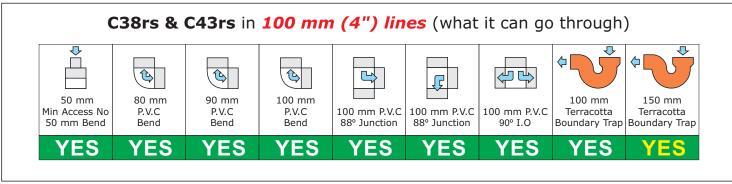


Over 31 I/min (8 gpm) in 150mm (6") lines



The C38rs & C43rs works in any of the 150mm pipe (6") combinations shown below.





Actual Size of a C38R *Penetrator* Assembly

The C38r is used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles.



EXTREME HEAVY Duty PENETRATOR

front 18° or 24° SS
reverse turbo nozzle
with
tungsten carbide seats
and back 3 or 6
ceramic jets
at 30°





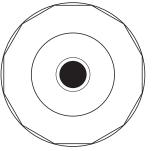


Over 31 l/min or 8 gpm



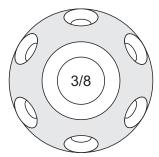






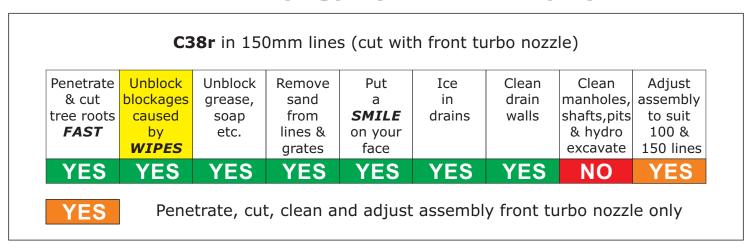


front view turbo nozzle

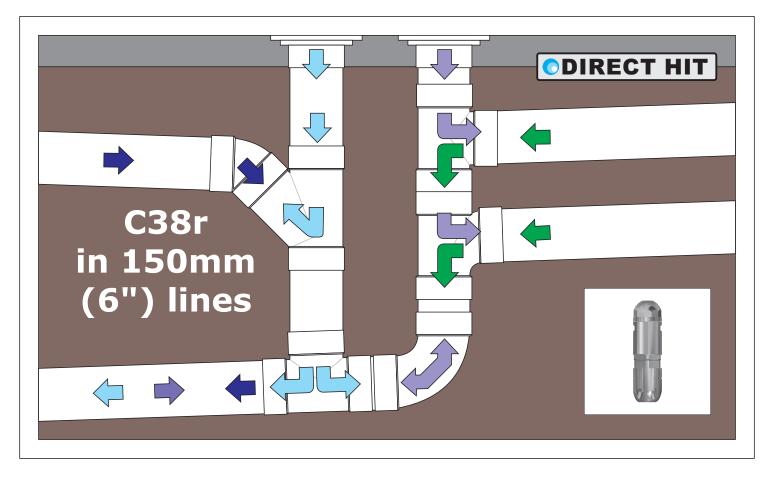


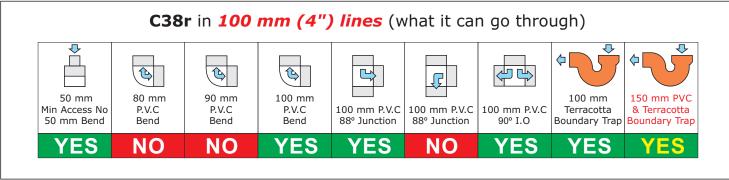
back view 3 or 6 ceramic jets

Over 34 I/min (8 gpm) in 150mm (6") lines



The C38r works in any of the 150mm pipe (6") combinations shown below





Actual Size of C43r Penetrator Assemblies

The C43r is used to penetrate and cut forward using a turbo nozzle through soft and hard materials. They flush out all debris from the line without changing nozzles up or downstream. A 50mm (2") access point can be used with both nozzles.



ALL ROUNDER HEAVY PENETRATOR

front 30° SS reverse turbo nozzle with tungsten carbide seats and back 3 or 6 ceramic jets at 30°







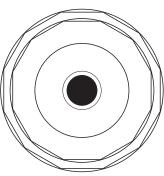
Over 31 l/min or 8 gpm

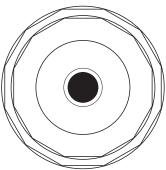
100 mm

NO

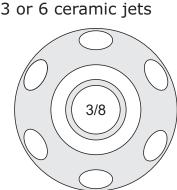


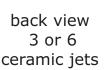




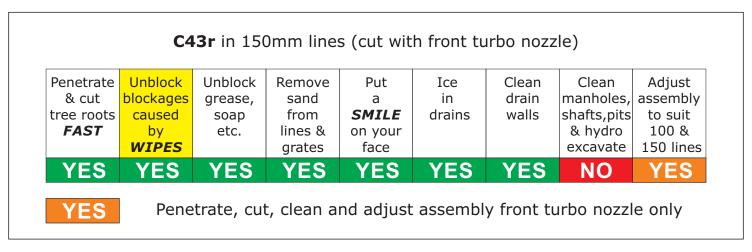




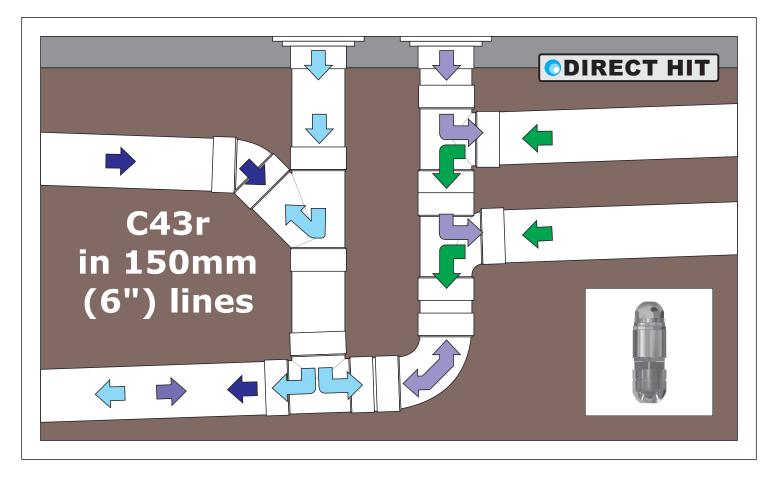


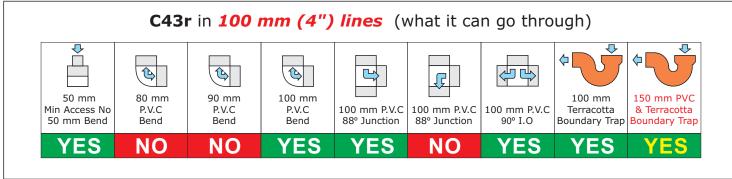


Over 31 I/min (8 gpm) in 150mm (6") lines

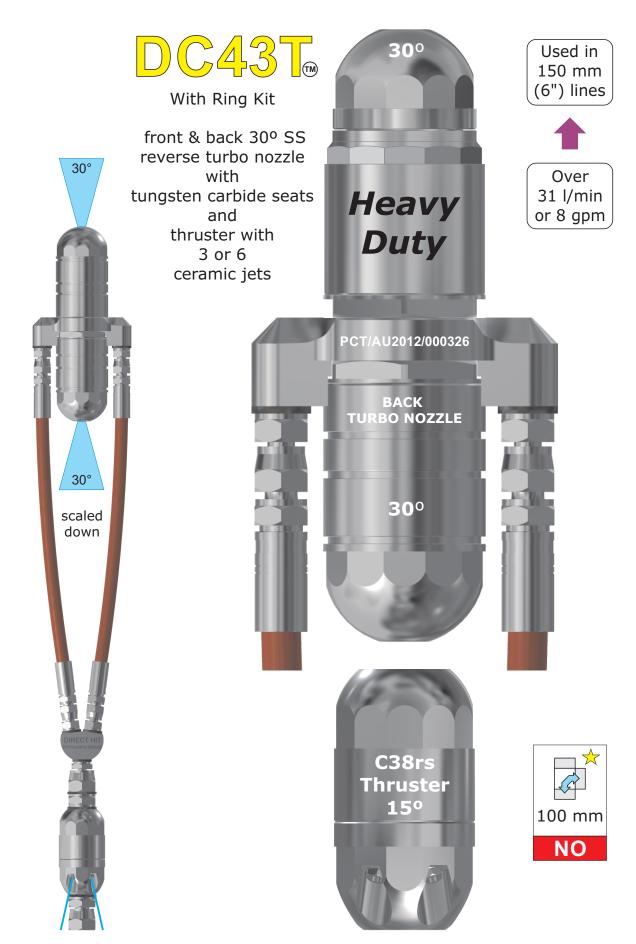


The **C43r** works in any of the **150mm pipe** (6") combinations shown below.





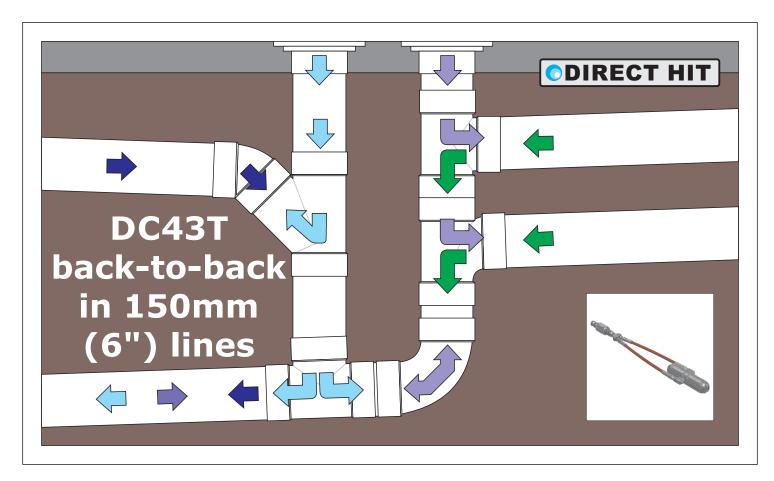
Actual Size of DC43T Penetrator and Cutter Assembly

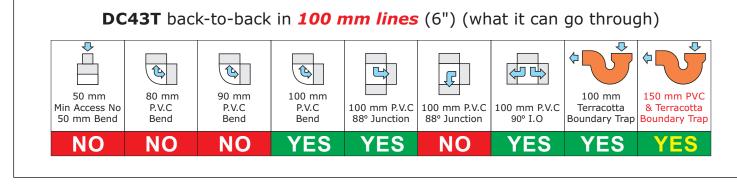


Over 31 I/min (8 gpm) in 150 mm (6") lines

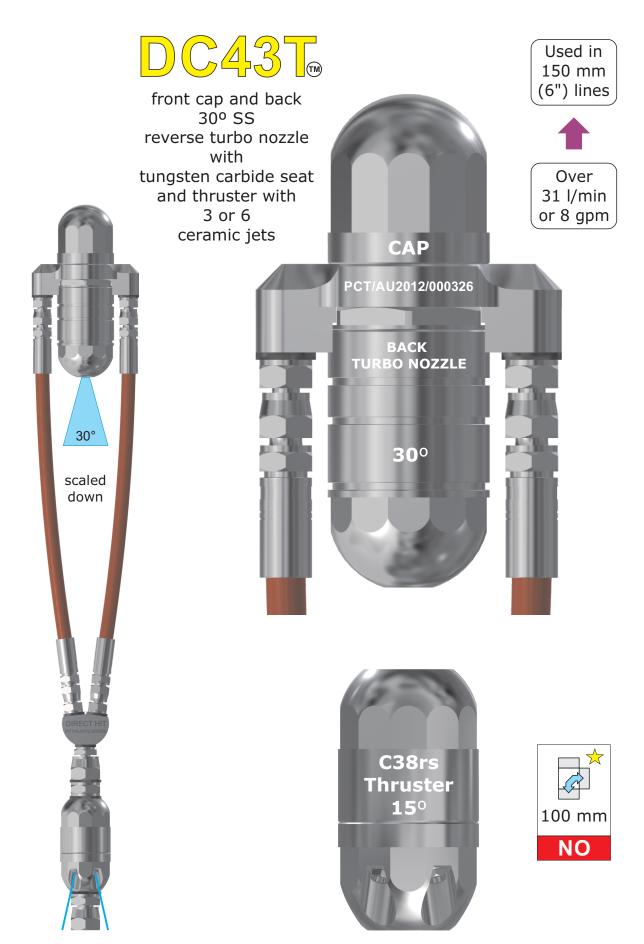
DC43T back-to-back (front and back revere turbo nozzles) Penetrate Cut Put Clean Unblock Remove Ice Clean Adjust drain tree roots tree roots grease, sand in manholes, assembly а **FAST FAST SMILE** drains walls from shafts, pits soap to suit etc. lines & on your & hydro 100 & grates face excavate 150 lines YES YES YES YES YES YES YES YES YES

The DC43T back-to-back works in any of the 150mm pipe (6") combinations shown below





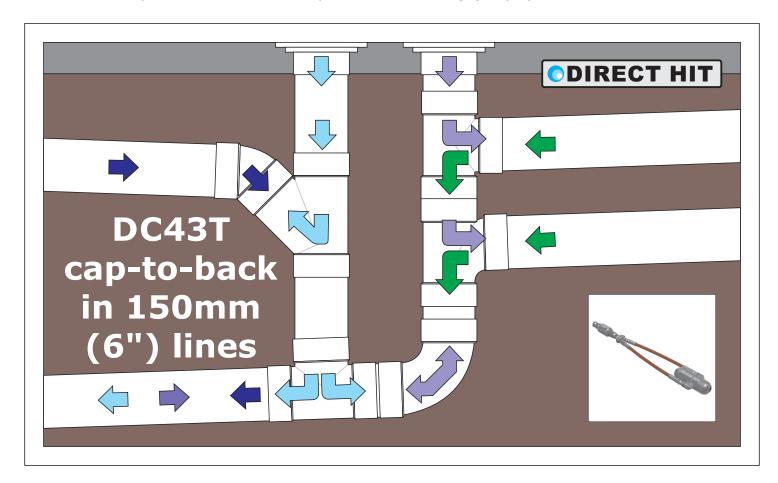
Actual Size of DC43T *Cutter* Assembly

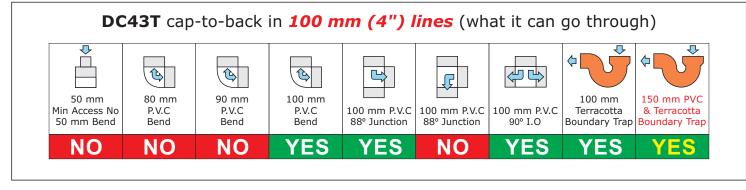


Over 31 I/min (8 gpm) in 150mm (6") lines

DC43T cap-to-back (capped front and back reverse turbo nozzle) Penetrate Cut Put Clean Unblock Remove Ice Clean Adjust drain tree roots tree roots grease, sand in manholes, assembly **FAST FAST** from **SMILE** drains walls shafts, pits to suit soap etc. lines & on your & hydro 100 & grates face excavate 150 lines YES NO YES YES YES YES YES YES cut, clean & adjust from back turbo nozzle

The **DC43T** cap-to-back works in any of the **150mm pipe** (6") combinations shown below.





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SEWER NOZZLES

	C38rs	C38r	C38r	C43rs	C43r	C43r	C43r
	24° Extreme root root root because Back-to-Back	Cap-to-Back	24° Extreme reported for productions and productions are producted for productions and productions are producted for productions and productions are producted for producted for productions are producted for producted for productions are producted for producted	30° Extreme paretries Pare	Cap-to-Back	C43FN24 24° Extreme rote penetrator PCT-040291-5080588	30° Extreme professor
	20-80+ I/min	20-80+ I/min	30-80+ I/min	20-80+ I/min	20-80+ I/min	30-80+ I/min	30-80+ I/min
	5.5-20+ gpm	5.5-20+ gpm	5.5-20+ gpm	5.5-20+ gpm	5.5-20+ gpm	5.5-20+ gpm	5.5-20+ gpm
max	5000psi	5000psi	5000psi	5000psi	5000psi	5000psi	5000psi
K	yes	yes	yes	yes	yes	yes	yes
	yes	caped	yes	yes	caped	yes	yes
S ₹	15°	30°	30°	15°	30°	30°	30°
F	24°	caped	24°	30°	24°	24°	30°
	3/8 bsp-npt	3/8 bsp	3/8 bsp	3/8-1/2 bsp-npt	3/8 bsp	3/8 bsp	3/8 bsp
xL Ø	38 x 96 mm	38 x 103 mm	38 x 132 mm	43 x 96 mm	43 x 128 mm	43 x 128 mm	43 x 125 mm
<u> </u>	0.506 kg	0.670 kg	0.785 kg	0.662 kg	1.00 kg	1.00 kg	0.963 kg
	yes	yes	yes	yes	yes	yes	yes
	80mm (3")	100mm (4")	100mm (4")	80mm (3")	100mm (4")	100mm (4")	100mm (4")
44	100mm (4")	100mm (4")	150mm (6")	100mm (4")	150mm (6")	150mm (6")	150mm (6")
	50mm (2")	50mm (2")	50mm (2")	50mm (2")	50mm (2")	50mm (2")	50mm (2")
	100mm (4")	100mm (4")	150mm (6")	100mm (4")	100mm (4")	150mm (6")	150mm (6")
	2" - 12" +	2" - 12" +	2" - 12" +	2" - 12" +	2" - 12" +	2" - 12" +	2" - 12" +

	Connecting thread to carriage in inches	∞xL ⊘	Measures (mm)	3	Output litres	8	Recycling
	Front reverse turbo	Œ	Back 3 or 6 ceramic jets	max	Maximum pressure (psi)		
F	Front angel turbo jet	B	Back jet angel	유	Weight (kg)		Minimum access into a pipe ID
	What riser can it go up or down stream?		What inspection shaft can it go down?		What 90° bend can it go around?		Application range



SEWER NOZZLES

	DC38 24° 24° Back-to-Back	Cap	Cap 24°	DC43 30° Back-to-Back	Ва	24° 30° ack-to-Ba	ck	Cap-to-Back	C38I +T=Ir Thru 15	nlline ster	C38RST Capped Thruster 15° Back Jets
	20-34 I/min +T	15-34	1 l/min +	T 20-34 l/min + T	20-	-34 I/min	+T	15-34 l/min +T	T=15-8	0 l/min	15-80 l/min
	5.5-8 gpm +T	2-8	gpm +T	5.5-8 gpm +T	5.5	5-8 gpm ·	+T	2-8 gpm +T	T= 5.5-2	20 gpm	5.5-20 gpm
max	5000		5000	5000		5000		5000	50	00	5000
	yes		no	yes		yes		no	n	0	no
	yes		yes	yes		yes		yes	ye	s	back jets
(878)	yes	yes		yes	yes			yes	yes		yes
F	24°	Ca	apped	30°		30°		capped	inli	ne	capped
B	18° or 24°	18	° or 24°	30°	1	18° or 24'	0	30°	15° .	Jets	15° Jets
	1/4 - 1/2	1/4	l - 1/2	1/4 - 1/2		1/4 - 1/2		1/4 - 1/2	1/4 -	1/2	1/4 - 1/2
\varnothing^{xL}	38 x 162 mm	38 x	133 mm	43 x 158 mm	43	3 x 156 m	ım	43 x 132 mm	38 x 7	1 mm	38 x 71 mm
R	1.340 kg	1	1.520 kg	1.495 kg		1.535 kg		1670 kg	424	kg	424 kg
ES .	yes		yes	yes		yes		yes	ye	:S	yes
	100mm (4")	100	mm (4")	100mm (4")	10	00mm (4'	")	100mm (4")	100mr	n (4")	100mm (4")
44	100mm (4")	100	mm (4")	100mm (4")	10	00mm (4'	")	100mm (4")	100mr	n (4")	100mm (4")
	100mm (4")	100	mm (4")	100mm (4")	10	00mm (4'	")	100mm (4")	100mr	n (4")	100mm (4")
	100mm (4")	100	mm (4")	100mm (4")	10	00mm (4'	")	100mm (4")	150mr	n (4")	150mm (4")
	100 - 300mm +	100 -	300mm -	100 - 300mm +	10	0 - 300mn	า +	100 - 300mm +	100 - 30	0mm +	100 - 300mm +
	4" - 12" +	4"	- 12" +	4" - 12" +		4" - 12" +		4" - 12" +	2" - 1	2" +	2" - 12" +
	Connecting threat carriage in inches		ø ^{xL}	Measures (mm)		Output litres		66.6		3, 4 or 6 Ceramic 6 jet Thruster	
	Front reverse tur	bo		Back reverse turbo)	Maximum pressure (psi)) Back jet angel		ack jet angel	
F	Front angel turbo	jet	B	Back angel turbo je	et	<u> </u>		Weight (kg)		1	nimum access ito a pipe ID
	What riser can it up or down strea			What inspection sha can it go down?	aft		Wh	nat 90° bend can it go around?		Application range	

This catalogue is designed to be viewed two pages at a time.

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- 2. go down to page display
- 3. right click on two page view
- 4. right click on arrow





The **Penetrator** Starter Kit Range

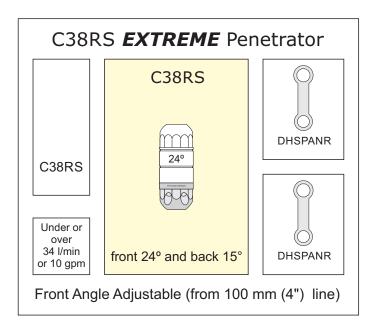
Direct Hit C38RS & C43RS Starter Kit

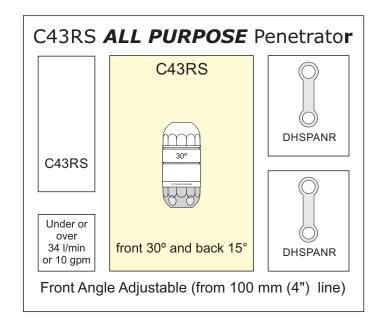
Item #	Description	Pipe Size	
RSC38SKIT	C38RS Assembly	100 - 450 mm (4" - 18")	
RSC43SKIT	C43RS Assembly	100 - 450 mm (4" - 18")	

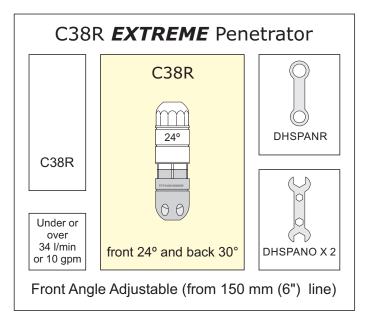
Direct Hit C43R Starter Kit

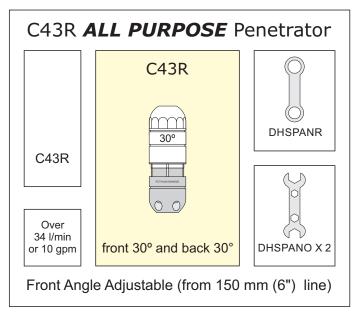
Item #	Description	Pipe Size	
RC38SKIT	C38R Assembly	100 - 450 mm (4" - 18")	
RC43SKIT	C43R Assembly	100 - 450 mm (4" - 18")	

What is included in the **Penetrator** Starter Kit Range









The **Penetrator and Cutter** Starter Kit Range

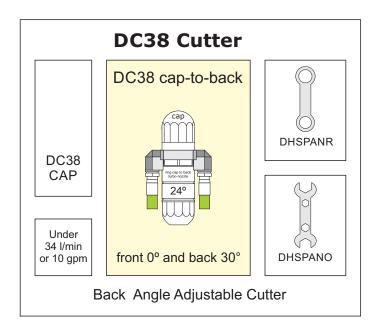
Direct Hit DC38 & DC43 Starter Kits

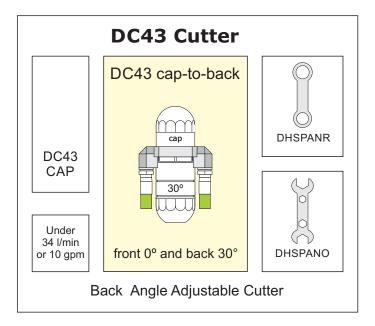
	Item #	Description	Pipe Size	
D	C38CSKIT	DC38 Cap Assembly	100 - 300 mm (4" - 12")	
D	C43CSKIT	DC43 Cap Assembly	100 - 300 mm (4" - 12")	

Direct Hit C38rsT Starter Kits

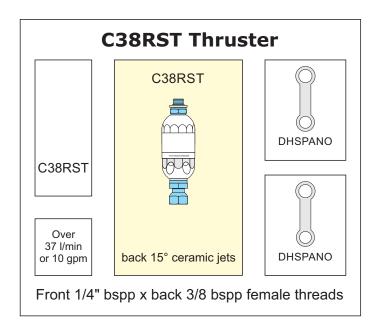
Item #	Description	Pipe Size	
C38RSTKIT	C38RST Assembly	100 - 450 mm (4" - 18")	

What is included in the **Penetrator and Cutter** Starter Kit Range





What is included in the Thruster Starter Kit Range



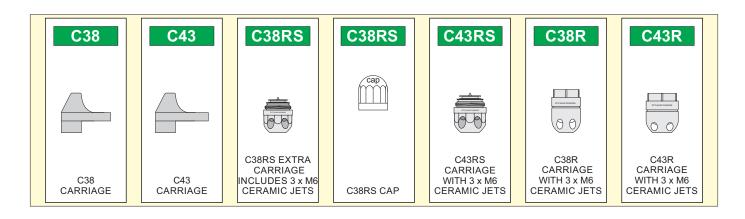
Build your own Direct Hit Assembly Kit!

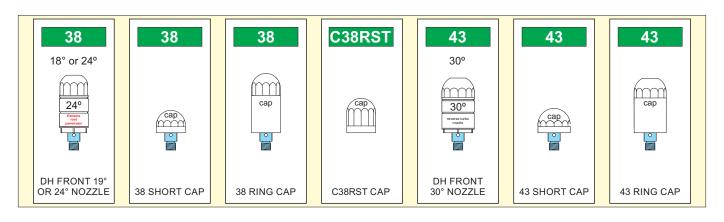
Item #	Description	
C38CARR-C	C38 Carriage	
C43CARR-C	C43 Carriage	
RS38CARR-3J	C38rs Carriage includes 3 x M6 Ceramic Jets	
RSC38CAP	C38RS Cap	٦
RS43CARR-3J	C43rs Carriage includes 3 x M6 Ceramic Jets	
R38CARR-3J	C38r Carriage includes 3 x M6 Ceramic Jets	
R43CARR-3J	C43r Carriage includes 3 x M6 Ceramic Jets	

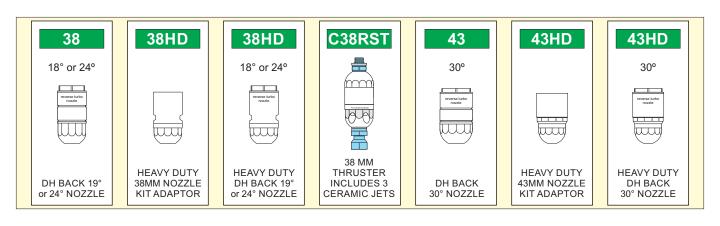
Item #	Description	
FN38DH	38 mm Front 18° or 24° Nozzle includes the connector	
C38CAP-S	38 mm Short Cap includes the connector	
C38CAP-RING	38 mm Ring Cap includes the connector	Ī
RST38CAP	C38RST Cap	
FN43DH	43 mm Front 30° Nozzle includes the connector	Ī
C43CAP-S	43 mm Short Cap includes the connector	
C43CAP-RING	43 mm Ring Cap includes the connector	Ī

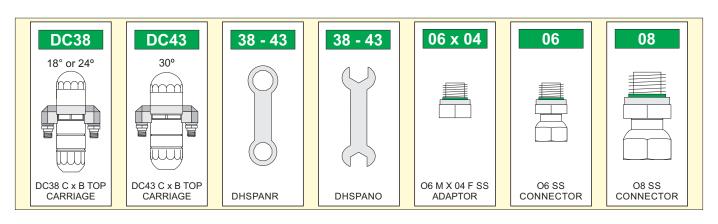
Item #	Description
BN38DH	38 mm Back 18° or 24° Turbo Nozzle
BN38 HD -B	38 mm Body Heavy Duty Kit Adaptor
BN38 HD	38 mm Back 18° or 24° Heavy Duty Turbo Nozzle
RST38-IN-KIT	38 mm C38RST Thruster Includes 3 x M6 15° Ceramic Jets
BN43DH	43 mm Front 30° Turbo Nozzle
BN43 HD -B	43 mm Body Heavy Duty Kit Adaptor
BN43 HD	38 mm Back 30° Heavy Duty Turbo Nozzle

Item #	Description .	
DC38-TOP	Dc38 Top Carriage with Cap and 18° or 24° Nozzle minus the Y Connector and two hoses.	
DC43-TOP	Dc43 Top Carriage with Cap and 30° Nozzle minus the Y Connector and two hoses.	
DHSRAN-R	Direct Hit Ring SS Spanner .	
DHSRAN-0	Direct Hit Open SS Spanner	
ADAPTOR-06x04	3/8 Male x 1/4 Female Adaptor Includes Dowty Washer	
SWIVEL-06	3/8 Male x Swivel Connector Includes Dowty Washer	
SWIVEL-08	1/2 male x Swivel Connector Includes Dowty Washer	







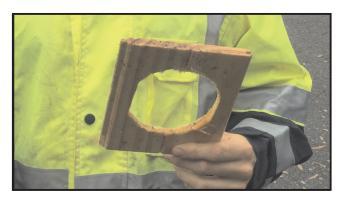


Item #	Description .	
DH38RING-100	38 mm x 100 mm Ring	7
DH38RING-150	38 mm x 150 mm Ring	
DH38RING-100-SS	38 mm x 100 mm Ring	1
DH38RING-150-SS	38 mm x 150 mm Ring	1
DH38RING-225-SS	38 mm x 100 mm Ring	Ī
DH38RING-300-SS	38 mm x 150 mm Ring	1
DH38CIRCLIP-SS	38 mm SS Circlip	

Item #	Description	
DH43RING-100	43 mm x 100 mm Ring	
DH43RING-150	43 mm x 150 mm Ring	
DH43RING-100-SS	38 mm x 100 mm Ring	
DH43RING-150-SS	38 mm x 150 mm Ring	
DH43RING-225-SS	38 mm x 100 mm Ring	
DH43RING-300-SS	38 mm x 150 mm Ring	
DH43CIRCLIP-SS	42 mm SS Circlip	

Item #	Description .	
DH38BC	38 mm 90° SS Bend turbo nozzle connector	
DH38SC	38 mm 90° SS Straight turbo nozzle connector	
04SSDOWTY	04 SS Dowty Washer	
06SSDOWTY	06 SS Dowty Washer	
DHSSP900	04 SS M X F Pipe Extension for the Gun with Dowty washer	
5KPSIGUN	5000 Psi Gun Kit	

Item #	Description	
CIPCLIP-P	Circlip Plier 19-60mm	



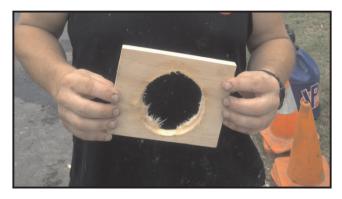
C43rs demonstration cut a 100 mm hole through a 14mm pine timber with 25 litres @ 5000 psi pump



C43rs demonstration cut a 100 mm hole through a 14mm pine timber with a Harben 55 litres @ 4000 psi pump



DC38 ring cap and back nozzle demonstration cut a 100 mm hole through a 14 mm timber with a 20 litres @ 4000 psi pump

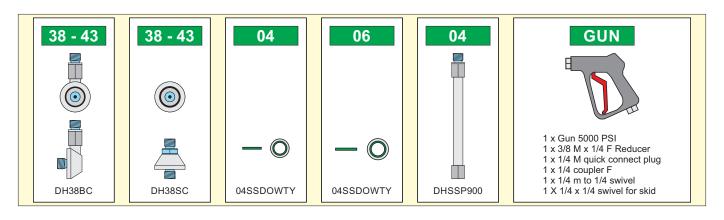


DC43 ring cap and back nozzle demonstration cut a 100 mm hole through a 18 mm pine timber with a A R 21 litres @ 5000 psi pump



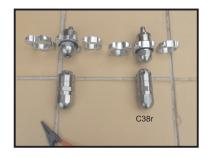








Direct Hit Assembly Photos







Direct Hit assemblies C38r and C43r







Direct Hit assemblies C38r and C43r







Direct Hit assemblies C38r and C43r









Direct Hit assemblies C38rs, DC38, DC43 and DC43t



Direct Hit assemblies C38rs, C38r, C43r and C43rs