

# POWERHAND® VRS - A NEW WAY OF THINKING

## Powerhand Value Extraction Recycling

With Powerhand VRS we created a new product, a new concept and a new way to recycle vehicles. Extracting extra value from the vehicle and revolutionising the ELV recycling industry.

We continue to innovate, cooperating with our customers in the industry developing new features and techniques, finding new ways of doing things and advancing our Powerhand technology.

Your productivity is our priority. At Powerhand, we understand how tough the ELV recycling industry is and that productivity is the key. In everything we do, our commitment is to optimise operating efficiencies.

We believe the best way to guarantee the highest quality of manufacture is to control the whole process. That is why, from design to manufacture, we produce 100% of our machines in our own factories in Scotland with a manufacturing history dating back almost 100 years since the founding of our parent company William Clark and Son in 1924.



**powerhand®**

**A NEW WAY OF THINKING**



# WELCOME TO THE FUTURE OF VEHICLE DISMANTLING

## Extract maximum value from ELVs with Powerhand VRS

Traditional manual methods of removing high value materials from ELVs can be labour intensive and costly, in many cases making the process economically unviable. Although a four-tine scrap grab will allow extraction of the engine, much of the added value materials are left behind, resulting in the end of life vehicle dismantling companies missing out on great potential profit.

Like a vulture would dissect its prey, the VRS clamp arms pin down the vehicle to allow the grapple to systematically pull the valuable materials away from the lowervalue vehicle body shell. The knife blades on the clamp arms of the VRS 200 allow engine and transmission assemblies to be split from the engine block.

The Powerhand VRS is the ultimate combination of power and dexterity. The grapple features a slender, plier like shape providing an unbroken line of sight from the operator to the vehicle, allowing valuable materials like the copper wiring loom to be extracted from even the tightest of areas. High power hydraulic cylinders and high torque rotation unit gives the VRS the power to effortlessly dissect the vehicle.

We understand that in a demanding, fast paced industry, productivity is paramount. That is why the VRS is built to work, all day, every day. Manufactured 100% from high strength Swedish alloy steels, meaning you can maximise your profits without the worry of downtime.



			
Base Machine Weight Class	14-18 Tonnes	16-20 Tonnes	20-25 Tonnes
Vertical Clamp Leg Movement	✓ Independent Clamp Leg Movement	✓ Independent Clamp Leg Movement	✓ Dual Clamp Leg Movement
Horizontal Clamp Leg Movement	✗	✗	✓
Engine / Gearbox Splitting Blades	✗	✗	✓
Wire Stripping Tools	✓	✓	✓
High Gripping Force Hardened Grapple Legs	✓	✓	✓
Grapple Shear	✗	✗	✓
Rotation Unit Torque RPM	XR500 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min	XR500 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min	XR600 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min





# VRS® 200 SYSTEM

Increase profitability by using the VRS to quickly remove higher grade materials such as engine/transmission assemblies, axle/suspension components from lower grade vehicle body materials. Suitable for 20 to 25 tonne excavators.



Cutting Shear



High Force Gripping Jaws



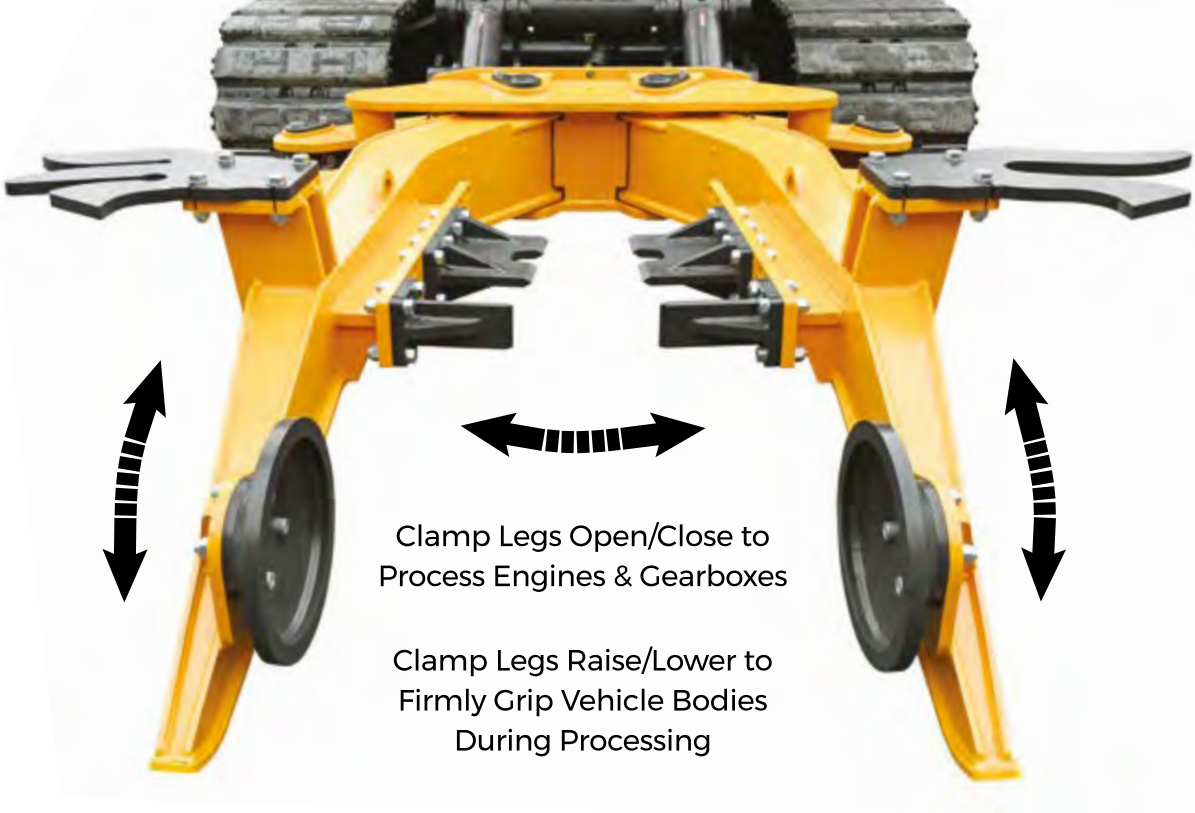
High Performance Rotation Unit



Gearbox & Engine Head Removal Blades



Wire Stripping Tools



Clamp Legs Open/Close to Process Engines & Gearboxes

Clamp Legs Raise/Lower to Firmly Grip Vehicle Bodies During Processing





# VRS® 200 SYSTEM

## Specifications & Features

- ☑ Hold down and clamp vehicles using the machine mounted clamp arms.
- ☑ Oversized materials can be cut to size using the grapple mounted shear.
- ☑ Use the grapple, engine clamp and central shear to separate ferrous/nonferrous metals from the engine, cylinder head and gearbox assemblies.
- ☑ Robust enough to handle heavy materials, yet the nimble jaws of the grapple allow easy removal of wiring looms, starter motors and alternators. Once the valuable wiring loom has been removed, use the multi-tool to strip off any unwanted electrical components.
- ☑ High performance rotation unit.
- ☑ Manufactured from high strength Swedish alloy steel.



Suitable for fitting to most machines in the range of 20-25 tonnes.

Grapple requires two hydraulic services:

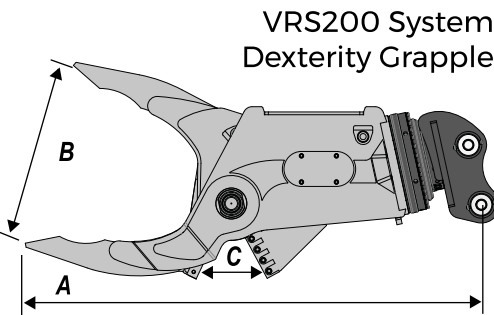
Open/Close 300Bar, 80-120 l/min

Rotate 250Bar, 40 l/min

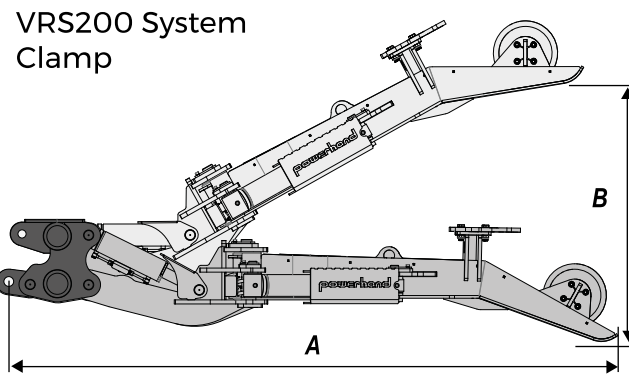
Clamp arms require two hydraulic services:

Open/Close 300Bar, 80-120 l/min

Raise/Lower 300Bar, 80-120 l/min



Overall Height	A	2625mm
Max Jaw Opening	B	1050mm
Max Blade Opening	C	400mm
Weight with XR600 Rotator & Upper Mount		1840kg



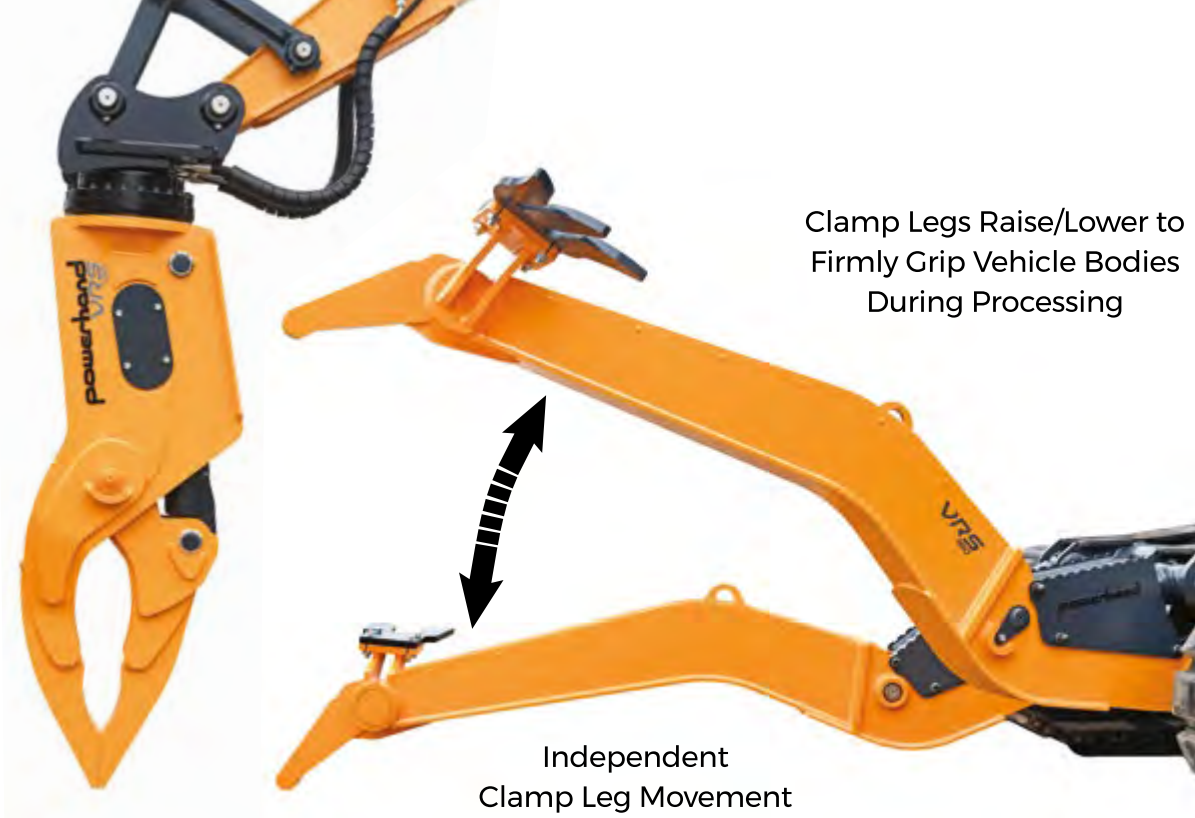
Overall Length	A	4600mm
Max Height	B	2250mm
Weight		3360kg





# VRS® 180 SYSTEM

Increase profitability by using the VRS to quickly remove higher grade materials such as engine / transmission assemblies, axle / suspension components from lower grade vehicle body materials. Suitable for 16 to 20 tonne excavators.



High Force  
Gripping  
Jaws



High Performance  
XR500 Rotation Unit



Wire Stripping Tools



Well Protected Hydraulic Cylinders



# VRS® 180 SYSTEM

# VEHICLE RECYCLING SYSTEM



# VRS® 180 SYSTEM

## Specifications & Features

- ☑ Hold down and clamp vehicles using the machine mounted clamp arms.
- ☑ Robust enough to handle heavy materials, yet the nimble jaws of the grapple allow easy removal of wiring looms, starter motors and alternators. Once the valuable wiring loom has been removed, use the multi-tool to strip off any unwanted electrical components.
- ☑ Independent clamp leg movement.
- ☑ High performance rotation unit.
- ☑ Manufactured from high strength Swedish alloy steel.



Suitable for fitting to most machines in the range of 16-20 tonnes.

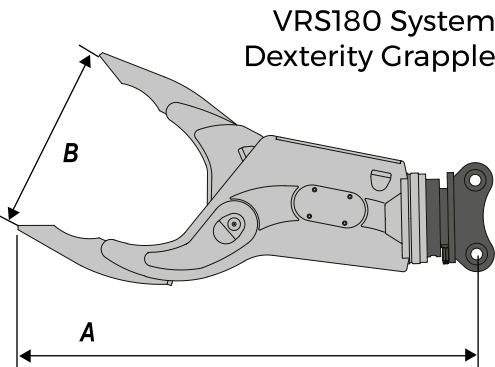
Grapple requires two hydraulic services:

Open/Close 300Bar, 80-120 l/min

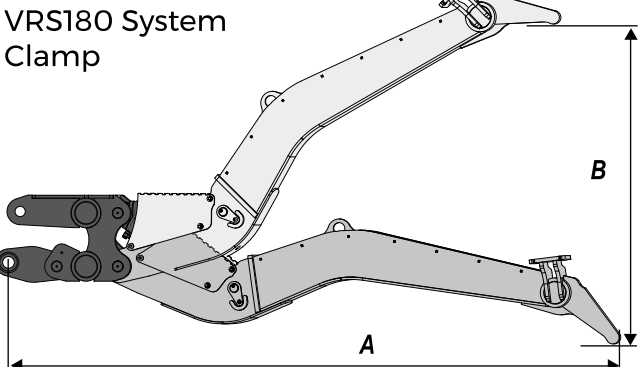
Rotate 250Bar, 40 l/min

Clamp arms:

Raise/Lower 300Bar, 80-120 l/min



Overall Height	A	2560mm
Max Jaw Opening	B	1050mm
Weight with XR500 Rotator & Upper Mount		1490kg



Overall Length	A	3400mm
Max Height	B	1850mm
Weight		1850kg





# VRS® 140 SYSTEM

The latest development of the Powerhand VRS family

The VRS140 will be introduced in the Summer of 2022. It is designed for use on robust 14 to 18 tonne excavators and is ideal for smaller recycling companies processing less than 3000 cars per year. Employing a lighter grapple than the larger VRS units, the 140 is fitted with similar clamp legs to the 180 with an up and down clamping action.

- ☑ Hold down and clamp vehicles using the machine mounted clamp arms.
- ☑ Robust enough to handle heavy materials, yet the nimble jaws of the grapple allow easy removal of wiring looms, starter motors and alternators. Once the valuable wiring loom has been removed, use the multi-tool to strip off any unwanted electrical components.
- ☑ Independent clamp leg movement.
- ☑ High performance rotation unit.
- ☑ Manufactured from high strength Swedish alloy steel.



Suitable for fitting to most machines in the range of 14-18 tonnes.

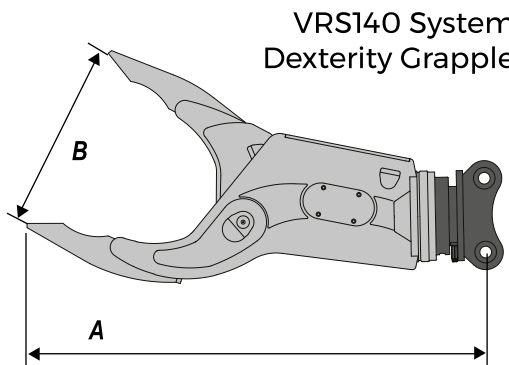
Grapple requires two hydraulic services:

Open/Close 300Bar, 80-120 l/min

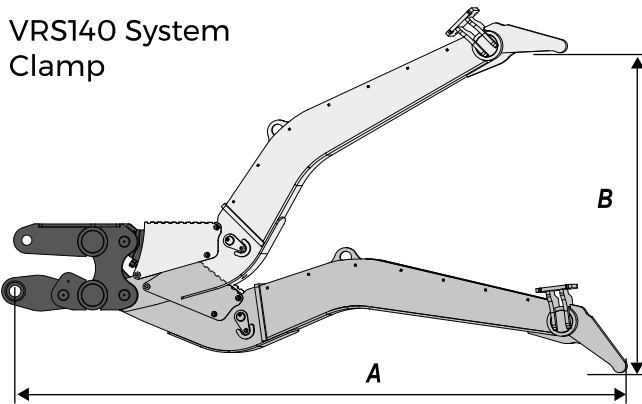
Rotate 250Bar, 40 l/min

Clamp arms:

Raise/Lower 300Bar, 80-120 l/min



Overall Height	A	2290mm
Max Jaw Opening	B	800mm
Weight with XR500 Rotator & Upper Mount		1210kg



Overall Length	A	3400mm
Max Height	B	1850mm
Weight		1850kg





# DEXTERITY™ GRAPPLES

Powerhand DEXTERITY grapples, designed to emulate a pair of surgical tweezers, are equipped with narrow jaws and a specially designed grip profile providing a unique ability to pick and select materials and components with absolute precision. Combined with a slimline design for greater visibility, high gripping force and a high torque rotational unit, Powerhand DEXTERITY grapples offer the ultimate pick and select excavator tool.



			
	DEX 140 DEXTERITY GRAPPLE	DEX 180 DEXTERITY GRAPPLE	DEX 200 DEXTERITY GRAPPLE
Base Machine Weight Class	14-18 Tonnes	16-20 Tonnes	18-25 Tonnes
Grapple Shear	X	X	✓ Max Blade Opening 400mm
Overall Height	2290mm	2560mm	2625mm
Max Jaw Opening	800mm	1050mm	1050mm
Weight	1210kg	1490kg	1840kg
Rotation Unit Torque RPM	XR500 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min	XR500 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min	XR600 Vane Motor 7,000Nm @250Bar 20RPM @40 l/ min





MV SERIES



- ✓ Robust manifold distribution of oil to hydraulic cylinders.
- ✓ IR series rotator enables high downward forces to be applied.
- ✓ Manufactured from high strength Swedish alloy steel.
- ✓ Ram shafts completely guarded with Powerhand Cylinder Protec Guards
- ✓ Well protected hoses.
- ✓ Robust leg stops and large diameter pivot pins and bushes extend working life.
- ✓ 300 bar working pressure.

ELV Engine Removal and Bale Loader Grab

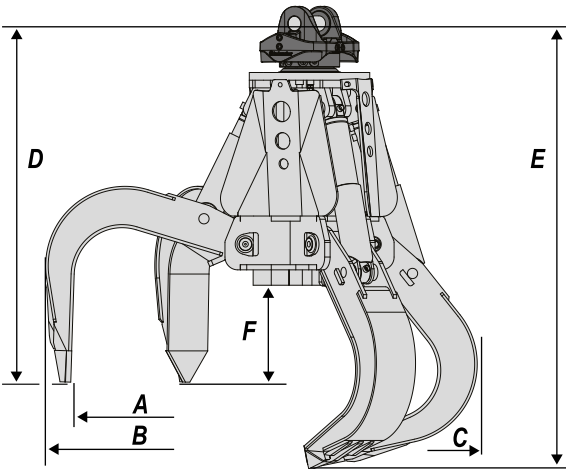
The MV grapple is specifically designed for vehicle recycling. Manufactured from high strength alloy steel with through hardened wear parts, the MV thrives in the high use formidable ELV processing environment.

The offset four leg geometry allows the grapple to fit into a vehicle engine bay for easy engine removal, yet still has the capacity to span a vehicle roof. Through hardened leg tips enable the MV to close tight for gripping even the smallest part.

The hydraulic cylinders of the MV utilise the Powerhand Cylinder Protec system offering 100% shaft protection which combined with well protected hydraulic hoses ensures high productivity and minimum downtime.



Capacity		330Litres
Weight (including rotator)		978kg
Open Width Inside	A	1860mm
Open Width Outside	B	2060mm
Closed Width Outside	C	1310mm
Open Height	D	1400mm
Closed Height	E	1730mm
Clearance	F	380mm



MV SERIES

VEHICLE PROCESSING GRAPPLE

