



*Vacuums*



*Carts & Mopping Systems*



*Carpet Care*



## FLOOR CARE SYSTEMS



# TTV 678

## Vario Automatic Scrubbers TTV 678 Ride-on Scrubber

With three adjustable scrubbing widths, 26", 30" and 34", and onboard storage for two squeegees, 30" and 40", it fits through any door and can handle any job large or small. Simply pull a pin and the brush deck automatically adjusts in or out to the correct width.

The 678 is fully featured and provides the operator with maintenance-free gel batteries and onboard chemical dispensing.

### Key Features

- Three sizes, one machine
- Fully adjustable flow rate from 0.25 gpm to 1 gpm
- Patented pop-on/pop-off brushes and pad drivers
- LED control panel continuously provides operator with chemical, water flow, brush pressure and battery status
- Adjustable brush pressure and speed
- Six maintenance-free gel batteries provide 4 hours of run time; low-voltage shutoff prolongs battery life
- Tear-away squeegee equipped with quick-release squeegee blades for easy cleaning
- Two squeegee sizes come with each machine
- Onboard chemical dispensing system allows for 32:1, 64:1, 96:1 and 128:1, guaranteeing proper chemical usage
- The gel batteries are completely maintenance free, emit 1/40 of the hydrogen gas of wet lead acid batteries, are spill-proof and can be charged anywhere. The safest, most dependable and longest-life batteries on the market
- Will accept optional off aisle kit



TTV 678

### PRODUCTIVITY CHART / IN SQ. FT./HR.

TTV 678	26"	30"	34"
Working Capacity (sq. ft./hr.)	49,192	56,760	64,328

## One Size Fits All



### MODEL

### TTV 678

Cleaning Path	26", 30", 34"	Maximum Gradient	11°
Pad or Brush Size	3" x 12"	Working Speed	0.3–4.3 mph
Solution/Recovery Tank	32 gal.	Vacuum Motor Power	24V, 400W
Chemical Capacity	1 gal.	Noise Level dB(A)	67 dB(A)
Chemical Mixture Rates	32:1, 64:1, 96:1, 128:1	Working Capacity (sq. ft./hr.)	49,192–64,328
Water Flow Rate	0.25, 0.5, 0.8, 1.0 gpm	Run Time	4 hrs.
Brush Pressure	160 lbs. max	Batteries (Gel)	6 x 12V, 100 Ahr.
Brush Speed	125–200 rpm	Weight (Including Batteries)	1,100 lbs.
Brush Motor	3 x 24V, 400W	Dimensions (LxWxH)	66" x 26" x 56"
Traction Motor	600W		

# TTV 5565

## Vario Battery Scrubbers TTV 4555 and TTV 5565 Traction Drive Scrubbers

The TTV 4555 and 5565 are the next generation in walk behind auto-scrubbers. With the 4555 offering a choice between 17" or 20" scrub widths while the 5565 adjusts from 22" to 26", all without tools, there simply isn't a more advanced pair of scrubbers on the market today.

Both units offer traction drive, an onboard chemical dilution system that provides precise chemical metering without the need for mixing and adjustable solution flow rates from 0.25 to 1 gpm, ensuring the proper amount of water and chemical are used at all times.

### Key Features

- Both units offer two sizes in one machine without the need for tools
- 16- and 22-gallon tanks provide the capacity needed for large jobs
- Traction drive motor moves them at speeds up to 4.3 mph
- Fully adjustable flow rate from 0.25 gpm to 1 gpm ensures correct amount of water is used
- Onboard chemical dispensing system allows for 32:1, 64:1, 96:1 and 128:1, guaranteeing proper chemical usage
- 5565 features patented pop-on/pop-off brushes and pad drivers while both offer adjustable brush pressure and speed
- LED control panel continuously provides operator with chemical, vacuum, water flow, brush pressure and battery status
- Tear-away squeegees equipped with quick-release squeegee blades for easy cleaning
- Maintenance-free gel batteries provide 2.5–3.5 hours of run time on the 4555 and over 3.5 hours on the 5565
- Onboard chargers permit charging anywhere while low-voltage shutoff prolongs battery life
- The gel batteries emit 1/40 of the hydrogen gas of wet lead acid batteries, are spillproof and can be charged anywhere
- The safest, most dependable and longest-life batteries on the market
- Will accept available, optional off aisle kit



TTV 5565

*The brushes are adjustable from 22" to 26" with no tools required*





# TTV 4555

Easy to use control panel makes for simple operation of the machine



Easy access to battery compartment and onboard chemical dilution system



TTV 4555

## MODEL

## TTV 5565/4555

Cleaning Path	22", 26" / 17", 20"
Pad or Brush Size	2" x 11", 2" x 13" / 17", 20"
Solution/Recovery Tank	22.5 gal. / 16 gal.
Chemical Capacity	1 gal.
Chemical Mixture Rates	32:1, 64:1, 96:1, 128:1
Water Flow Rate	0.25, 0.5, 0.8, 1.0 gpm
Brush Pressure	120 lbs. max / 90 lbs.
Brush Speed	200 rpm / 150 rpm
Brush Motor	2 x 24V, 400W / 1 x 24V, 400W
Traction Motor	600W / 250W

Maximum Gradient	11°
Working Speed	0.3–4.3 mph
Vacuum Motor Power	24V, 600W / 24V, 400W
Noise Level dB(A)	65 dB(A)
Working Capacity (sq. ft./hr.)	28,600 / 24,200
Run Time	3.5 hrs. / 2.5–3.5 hrs.
Batteries (Gel)	4 x 100 Ah. / 2 x 100 Ah.
Weight (Including Batteries)	632 lbs. / 492 lbs.
Dimensions (LxWxH)	55" x 27" x 45" / 57" x 22" x 45"

# TTB 1620

## Twintec Battery Scrubbers TTB 1620 Pad Assist and 1620T Traction Drive Scrubbers

The TTB 1620 and 1620T (traction drive) are large-capacity 20" scrubbers built for the most demanding user. They both offer adjustable solution flow rates to ensure the proper amount of water is used while the control panel continuously monitors critical operating levels.

### Key Features

- 16-gallon solution and recovery tanks
- Fully adjustable flow rate from 0.25 gpm to 1 gpm
- 250-watt traction drive motor moves the 1620T at speeds up to 4.3 mph
- LED control panel continuously provides operator with vacuum, water flow, brush pressure and battery status
- Semi-parabolic squeegee with Linatex blades pivots from side to side providing excellent water recovery
- Tear-away squeegee equipped with quick-release squeegee blades for easy cleaning
- Onboard charger and 2 x 100 amp hour gel batteries provide 2.5–3.5 hours of run time
- Low-voltage shutoff prolongs battery life
- The gel batteries are completely maintenance free, emit 1/40 of the hydrogen gas of wet lead acid batteries, are spill-proof and can be charged anywhere. The safest, most dependable and longest-life batteries on the market



TTB 1620



*TTB1620 control panel monitors the status of the batteries, brush pressure and water flow*

# TTB I 620T



Quick-fill hose allows you to fill the unit from a tap instead of using buckets



TTB I 620T control panel monitors the status of the batteries, brush pressure and water flow



TTB I 620T



Easy to view solution level



Squeegee blades can be changed without tools simply by pulling out the pins

## MODEL

## TTB I 620/I 620T

Cleaning Path	20"	Working Speed (T)	0.3–4.3 mph
Pad or Brush Size	20"	Vacuum Motor Power	24V, 400W
Solution/Recovery Tank	16 gal.	Noise Level dB(A)	65 dB(A)
Water Flow Rates	.25–1 gpm	Working Capacity (sq. ft./hr.)	22,000 / 22,000
Brush Pressure	90 lbs.	Run Time	2.5–3.5 hrs.
Brush Speed	150 rpm	Batteries (Gel)	2 x 100 Ah.
Brush Motor	24V, 400W	Weight (Including Batteries)	330 lbs. / 343 lbs.
Traction Motor (T)	24V, 250W	Dimensions (LxWxH)	57" x 22" x 43"
Max Gradient (T)	11°		

# TTB 1117

## Twintec Battery Scrubbers TTB 1117 and TTB 1120 Pad Assist Walk Behind Scrubbers

With 11-gallon solution and recovery tanks, these 17" and 20" walk behind scrubbers are compact and so easy to use anyone can operate them.

### Key Features

- Fully adjustable handle provides proper ergonomics for any operator
- Semi-parabolic tear-away squeegee with Linatex blades pivots from side to side providing excellent water recovery on turns
- Tear-away squeegee equipped with quick-release squeegee blades for easy cleaning
- Patented flip-up head makes pad or brush changing a breeze
- Stainless steel frame will never rust and the structural foam brush deck carries a 10-year warranty
- LED control panel continuously provides operator with vacuum, water and battery status
- Onboard charger and 2 x 100 amp hour gel batteries provide 2.5–3.5 hours of run time and can be charged anywhere
- Low-voltage shutoff prolongs battery life
- The gel batteries are completely maintenance free, emit 1/40 of the hydrogen gas of wet lead acid batteries, are spill-proof and can be charged anywhere. The safest, most dependable and longest-life batteries on the market



TTB 1117



*Patented flip-up head  
for easy pad changes*





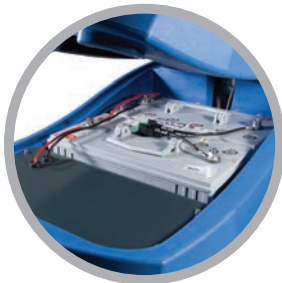
# TTB 1120



*Inline filter captures debris*



*Quick-fill hose allows you to fill from a tap instead of using buckets*



*Maintenance-free gel batteries are standard*



*Control panel monitors vacuum, water flow and batteries*



**TTB 1120**

## MODEL

## TTB 1117/1120

**Cleaning Path**

17" / 20"

**Pad or Brush Size**

17" / 20"

**Solution/Recovery Tank**

11 gal.

**Brush Pressure**

72 lbs. / 75 lbs.

**Brush Speed**

150 rpm

**Brush Motor**

24V, 400W

**Vacuum Motor Power**

24V, 400W

**Noise Level dB(A)**

65 dB(A)

**Working Capacity (sq. ft./hr.)**

18,700 / 22,000

**Run Time**

2.5–3.5 hrs.

**Batteries (Gel)**

2 x 100 Ah.

**Weight (With Batteries)**

268 lbs. / 277 lbs.

**Dimensions (LxWxH)**

44" x 18" x 43" / 44" x 22" x 43"

# TTB 516

## Twintec Battery Compact Scrubbers TTB 516 Pad Assist Scrubber

With 45–60 minutes of run time an interchangeable battery pack and 5-gallon solution capacity, the TTB 516 is the professional choice in compact auto-scrubbers. It gets into all those tight areas that other auto-scrubbers cannot. Essentially, it is a complete replacement for a mop and bucket system for so many reasons.

### Key Features

- Pivoting squeegee coupled with a 300-watt/0.4 hp vacuum motor provides excellent water recovery
- Recovery tank has a drain allowing for easy draining without the need for lifting
- Control panel provides operator with water, vacuum and battery status all in one convenient place
- The battery pack consists of a 1 x 12 volt 18 amp hour environmentally preferred gel battery that charges in under 5 hours. It is completely maintenance free, emits 1/40 of the hydrogen gas of wet lead acid batteries, is spill-proof and can be charged anywhere
- Fits into the trunk of a car



TTB 516

Forward tilting handle  
for easy storage



Environmentally preferred  
gel battery easily removed  
for transport



Easy to use control panel  
makes for simple operation  
of the machine

### MODEL

### TTB 516

Cleaning Path

16"

Pad or Brush Size

14" / 16"

Solution/Recovery Tank

5 gal.

Brush Pressure

55 lbs.

Brush Speed

200 rpm

Brush Motor

24V, 400W

Vacuum Motor Power

24V, 300W

Noise Level dB(A)

66 dB(A)

Working Capacity (sq. ft./hr.)

17,600

Run Time

45–60 min.

Batteries (Gel)

1 x 12V, 18 Ah.

Weight (With Batteries)

115 lbs.

Dimensions (LxWxH)

18" x 18" x 33.5"

# TT 1117/1120



TT 1117



TT 1120

## Twintec Electric Pad Assist Walk Behind Scrubbers

So compact and easy to use that anyone can use them while they break down into pieces for simple transport from one location to another. They truly are economic, cost-effective replacements for the bucket and mop!

### Key Features

- Fully adjustable handle ensures operator comfort
- Pad pressure is sufficient enough for both scrubbing and stripping
- With 100" water lift and 95 cfm of airflow, it will dry your floors like nothing else while the semi-parabolic squeegee pivots to ensure excellent water recovery on turns and can be easily removed for cleaning
- Entire unit can be broken down into sections for manual transport up and down stairs or from job to job
- Patented flip-up head makes changing brushes or pads a breeze
- Stainless steel chassis will never rust
- Brush deck is durable and carries a 10-year warranty



### MODEL

Cleaning Path

Pad or Brush Size

Solution/Recovery Tank

Brush Pressure

Brush Speed

Brush Motor

Vacuum Motor Power

### TT 1117/1120

17" / 20"

17" / 20"

11 gal.

105 lbs.

180 rpm

1,000W

1,200W

Noise Level dB(A)

Power Cord

Working Capacity (sq. ft./hr.)

Weight

Dimensions (LxWxH)

67 dB(A)

65'

18,700 / 22,000

140 lbs. / 150 lbs.

44" x 18" x 43" / 44" x 22" x 43"

# DP 340/420

## Duplex Multi-Surface Floor Cleaner

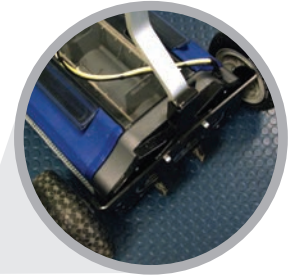
From wall to wall and into the tightest corners, the Duplex can be used in restoration or as an integral part of your daily maintenance program. Clean virtually any floor surface. Carpet, grouted ceramic, rubberized floors and even escalators are no obstacles for the Duplex.

### Key Features

- Simply fill the solution tanks and squeeze the trigger to feed cleaning solution onto the twin counter-rotating brushes
- Conveyors recover the dirty water, depositing it in the central recovery tank or you can choose to double scrub the area and pick up the water later
- Brushes and drive unit are offset so they work right to the edge of the machine and into difficult areas
- The Duplex's remarkable performance is the result of its unique 800,000-bristle design. Its brushes, counter-rotating at 780 rpm, actively lift dirt, water and grime from the floor surface, replacing mops, buckets, scrubbers and wet vacuums
- Brush options include two grades of black brushes for regular or aggressive scrubbing. Grey is the standard all-purpose brush; yellow for sensitive carpet areas
- Counter rotating brushes lift pile as required by carpet manufacturers



DP 340



Duplex transportation trolley



DP 420



Optional escalator kit for the DP 420

Model	DP 340	DP 420
Cleaning Path	11"	14"
Solution Tank	1.1 gal.	1.6 gal.
Recovery Capacity	0.75 gal.	1 gal.
Brush Speed	780 rpm	780 rpm
Brush Pressure	48 lbs.	57 lbs.
Brush Motor	1,000W / 1.3 hp	1,000W / 1.3 hp
Power Cord	35 ft.	35 ft.
Weight	48 lbs.	57 lbs.
Working Capacity (sq. ft./hr.)	4,840	6,160



Profiled Rubber and Ceramic



Carpet



Escalator



## TTB 817C/TTQ 815



TTB 817C



TTQ 815

### Twintec Cylindrical Scrubbers TTB 817C Brush Assist and TTQ 815

When a cylindrical unit is needed, the TTB 817 C and TTQ 815 with Tynex Grit Brushes can handle the toughest jobs. The 817 has a semi-parabolic squeegee that provides excellent water recovery on grouted surfaces while the 815 with blades on each side of the brush is perfect for the multidirectional operation required when cleaning narrow aisles. The fully adjustable handle provides proper ergonomics for any operator.

#### Key Features of the TTB 817

- LED control panel provides the status of the vacuum, water flow and batteries
- The gel batteries provide 2.5–3.5 hours of run time while the low-voltage shutoff prolongs their life
- The batteries are maintenance free, spillproof and can be charged anywhere, The safest, most dependable and longest-life batteries on the market

#### Key Features of the TTQ 815

- Whether operating forwards or backwards, there is no loss in scrubbing or pick-up performance
- The pump feeds cleaning solution onto the brushes ensuring consistent water flow and easy to reach on/off water switch allows for double scrubbing when required
- Large rear wheels make transport a breeze and the handle folds for easy transport and storage
- 65-foot power cord

MODEL	TTB 817/ TTQ 815		
Cleaning Path	17" / 15"	Noise Level dB(A)	65 dB(A)
Pad or Brush Size	17" / 15"	Cord Length (TTQ 815)	65 ft.
Solution/Recovery Tank	8 gal.	Working Capacity (sq. ft./hr.)	14,960 / 14,960
Brush Pressure	30 lbs. / 27 lbs.	Run Time (817C)	2.5–3.5 hrs. / NA
Brush Speed	1,000 rpm / 1,200 rpm	Batteries (Gel) (817C)	2 x 100 Ah. / NA
Brush Motor	400W-0.5 hp	Weight (With Batteries)	268 lbs. / 90 lbs.
Vacuum Motor Power	400W-0.5 hp / 1,200W-1.6 hp	Dimensions (LxWxH)	45" x 32" x 40" / 29" x 18" x 29"

# FLOOR MACHINES



With a profile of only 7.5", it can go places no other machine can



The handy solution tank (standard) turns the 316 into a portable cleaning system. See how easily it folds for shipping and storage



Compact folding for easy shipping and storage



LL 316

## LL 316 Key Features

With a 13" deck, 200 rpm motor and weight of only 40 pounds, the LL 316 is compact and easy to transport, yet powerful enough to handle just about any job. The fold-down handle makes storage a nonissue.



NS 17/20

## NS 17 and NS 20 Key Features

With a 1.5 hp motor, triple planetary gears and over 90 pounds of weight, our NS series provides everything the most demanding commercial user requires. The removable weight makes the NS series excellent for bonnet cleaning and easy to transport at 70 pounds without the weight.

### MODEL

Brush Motor

Weight

Power Cord

Voltage

Pad Size

Speed

Tank Capacity

### LL 316

0.5 hp

40 lbs.

50 ft.

115V, 60hz

13"

200 rpm

1 gal. (included)

### NS 17/20

1.5 hp, AC

90 lbs. / 92 lbs.

50 ft.

115V, 60hz

17" / 20"

175 rpm

2 gal. (optional)

# FLOOR MACHINES



NA 17/20

## NA 17 and 20 Key Features

All steel construction and dual planetary steel gears make these units tough enough for the heaviest of jobs. *(shown with optional shampoo tank)*



NA 20 DS

## NA 20 DS Key Features

All steel construction, a 1.5 hp DC rectified motor and dual planetary gears make this unit a real workhorse. It has the option of running at 175 rpm or 300 rpm, providing greater versatility in use.



NA 1520/I520 DC

## NA 1520/I520 DC/ NA 2020 Key Features

All steel construction and 1.5 hp DC rectified motor ensure these units can handle the toughest of jobs. Multi-grooved drive belts provide efficient power transfer. Our dust control (DC) model has a unique filter system that is easily cleaned and changed.

### NA 17/20

1.5 hp, AC  
91 lbs. / 96 lbs.  
50 ft.  
115V, 60hz  
17" / 20"  
175 rpm  
4 gal. (optional)

### NS 20 DS

1.5 hp, DC Rectified  
108 lbs.  
50 ft.  
115V, 60hz  
20"  
175 / 300 rpm  
4 gal. (optional)

### NA 1520/I520 DC / NA 2020

1.5 hp, DC Rectified  
112 lbs.  
50 ft.  
115V, 60hz  
20" (19" for 1520 DC)  
1500 / 1500 / 2000 rpm  
NA

# GEL BATTERIES

## Gel Batteries

NaceCare uses 100% gelled electrolyte batteries in all our scrubbers; they're totally maintenance-free with no terminal corrosion ever. There is no risk of acid spilling due to improper maintenance or handling and no emergency spill kit is needed. With the self-diagnostic onboard charging system, they can be charged anywhere and are completely explosion-proof, making them the safest battery available anywhere.

## Key Features

- Both economically and environmentally safer to use
- Completely spillproof with no emergency spill kit or safety goggles required
- Acid will not leak if they are damaged since the internal liquid is a thixotropic paste (solid gel) when charging
- Considered nonhazardous materials to transport and are completely explosion-proof
- Guaranteed longer life than wet batteries and easier to dispose of
- Can be charged without special ventilation because they give off 1/40 the hydrogen of wet batteries when charging
- Maintenance-free with no terminal corrosion ever

## GEL BATTERIES VS. AGM AND FLOODED BATTERIES

GEL	AGM	FLOODED
<b>Advantages</b> <ul style="list-style-type: none"> <li>• Air transportable</li> <li>• 1/40 of the off gassing of a wet battery when charging</li> <li>• Low self-discharge</li> <li>• No corrosion on terminals</li> <li>• Can be charged anywhere</li> <li>• Longer life than AGM and flooded lead acid batteries</li> <li>• Spillproof</li> </ul>	<b>Advantages</b> <ul style="list-style-type: none"> <li>• Maintenance free</li> <li>• Lower initial cost</li> <li>• Low self-discharge</li> <li>• No corrosion on terminals</li> <li>• Spillproof</li> </ul>	<b>Advantages</b> <ul style="list-style-type: none"> <li>• Low initial cost</li> <li>• Replacements easily available</li> <li>• Reasonable life with max discharge</li> </ul>
<b>Disadvantages</b> <ul style="list-style-type: none"> <li>• Higher price</li> </ul>	<b>Disadvantages</b> <ul style="list-style-type: none"> <li>• Short life cycle with a deep discharge</li> <li>• Less run time than gel</li> <li>• Not made for use with automatic floor scrubbers</li> </ul>	<b>Disadvantages</b> <ul style="list-style-type: none"> <li>• Spillable</li> <li>• Hazardous</li> <li>• Maintenance intensive</li> <li>• Must be charged in a ventilated area</li> <li>• Fewer shipping options</li> <li>• High self-discharge rate</li> <li>• Cannot be installed near sensitive electronic equipment</li> <li>• Requires staff training for hazardous material</li> </ul>

## LIFE CYCLE VS. DEPTH OF DISCHARGE (DOD)

Depth of Discharge	GEL	AGM	FLOODED
80%	600+ Cycles	250 Cycles	300 Cycles <i>(When properly maintained)</i>

The chart above shows the typical life cycle of both gel and AGM batteries at 80% depth of discharge. Although gel batteries have a higher initial cost, the life span is 2.25 times greater than an AGM battery.



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