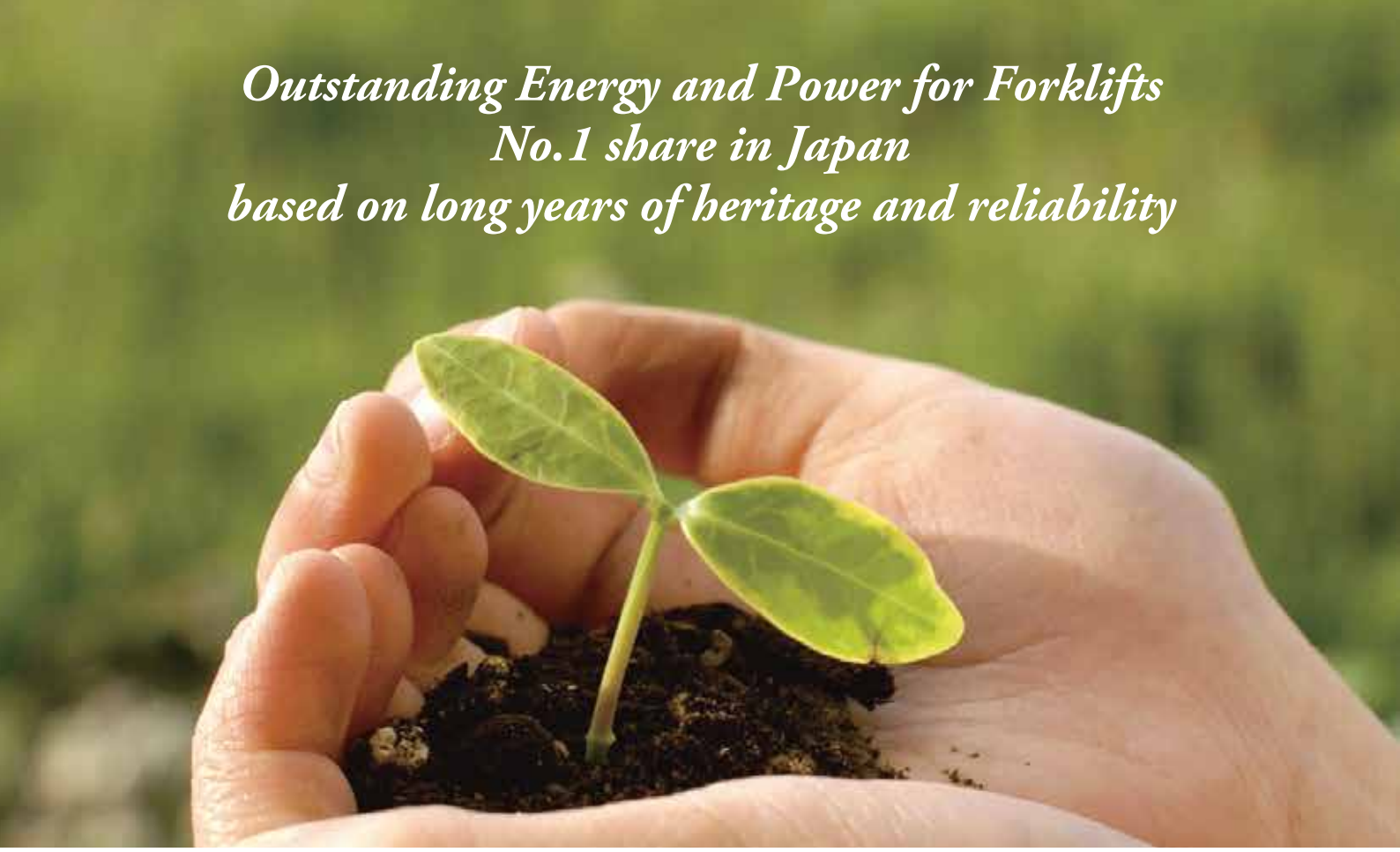
GS YUASA

Next to you

TRACTION BATTERY

GS YUASA MOTIVE POWER

Outstanding Energy and Power for Forklifts No.1 share in Japan based on long years of heritage and reliability

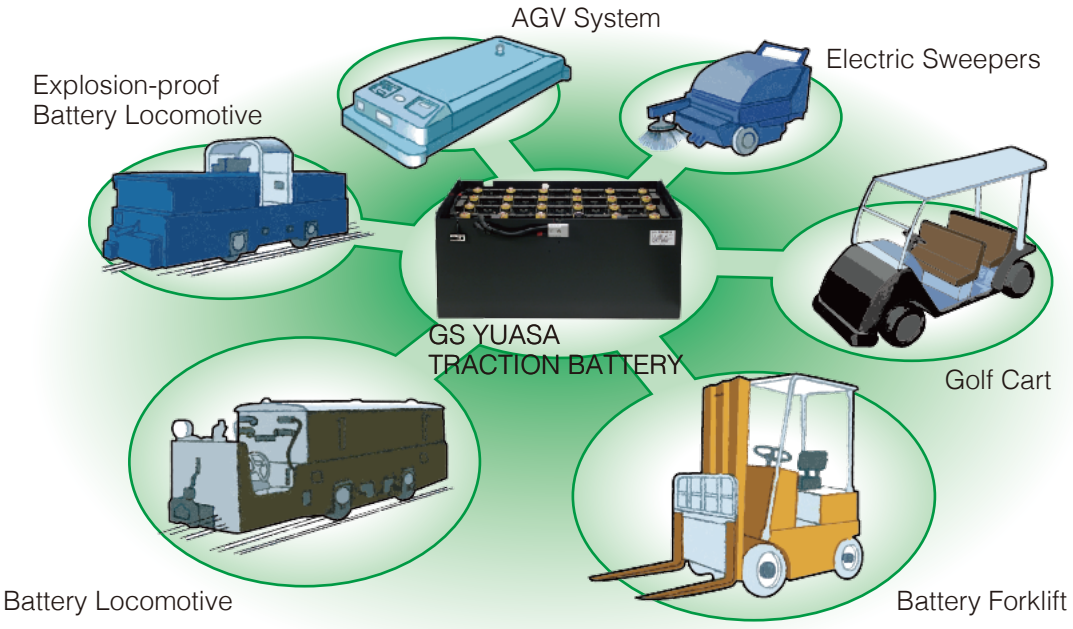


Traction Battery

GS Yuasa was formed in 2004 through the merger of two companies (Japan Storage Battery Co., Ltd. , established in 1895 and Yuasa Corporation, established in 1913) who has both originally developed storage battery technology and products in Japan. We have brought together the traditions and experience of both to develop our core battery business.

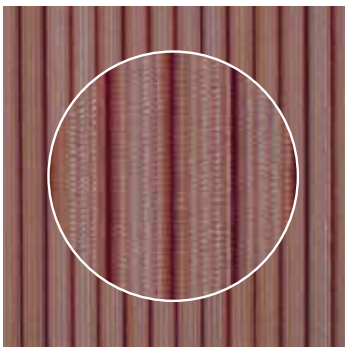
Our traction batteries are among the world's best in quality, standing out by the technology designed by GS Yuasa of using original glass fiber tubes, which meet our customer's requirement for a long service life, stable quality and easy maintenance. We are dealing forklift batteries since 1954. GS Yuasa branded battery range provide excellent performance under the most demanding service conditions.

Our traction batteries contribute to save our earth.



GS YUASA TRACTION BATTERY

High Performance and Unsurpassed Long Service Life



(fig.1)

The positive plate is richly filled with the best suitable, high performance active materials, being produced by SHIMAZU Ball Mill Lead Oxide Machinery. This Lead Oxide machinery is a specifically developed technology, which can produce very small and soft materials.

Also, our positive plate consists of glass braided fiber tubes and anti-corrosion alloy cores. The glass fiber contributes to a mechanical and chemical strength especially under high temperatures.

The plate employs lead alloy cores which offer outstanding corrosion resistibility and mechanical strength.

Therefore, our uniquely designed positive plate offers an unsurpassed retaining capacity of active materials.
(fig.1)

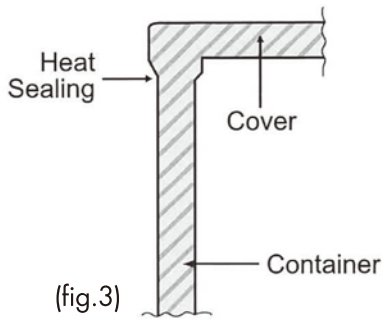
Easy Maintenance & Handling

(fig.2)

The orange float on top of the vent cap provides for a simple method to observe low electrolyte levels. The highest electrolyte level can be easily determined and the required amount of water can be put into the cell by opening the vent caps.

A “one touch operation" assures the opening and closing of the vent plug, providing for an easy handling and a nice appearance. Application of the swan screw assures free choice of the on-off direction. Water filler and water tank are both available.
(fig.2)

Outstanding Impact Resistanc

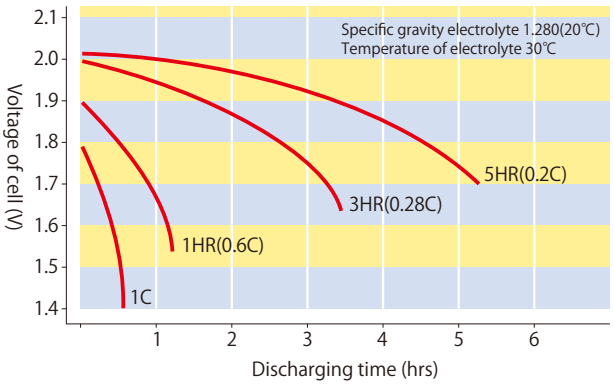


(fig.3)

The container and the cover are made of synthetic resin which is ten times as rigid as ebonite.The cover is sealed into one body with the container through heating method.
(fig.3)

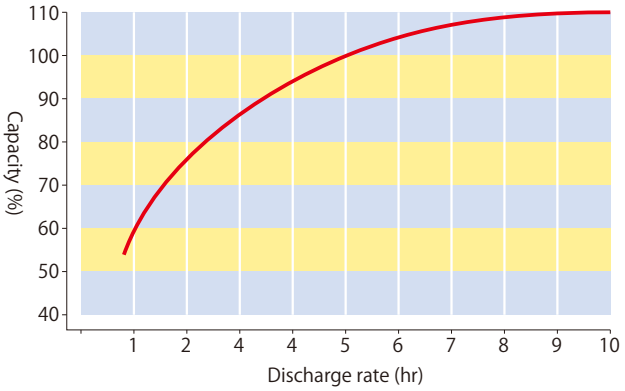
CELL SPECIFICATIONS

Discharging Characteristics of a Storage Battery for Forklift truck



Each hour rate(An Example) Just after fully charging, Temperature of battery:30℃, Discharge rate C: Rated one.

Relation between Discharge rate and Capacity

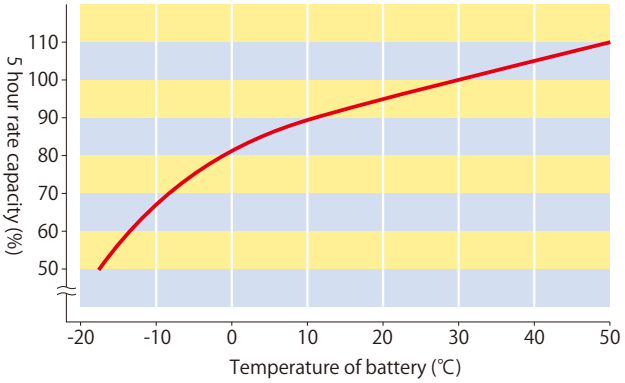


From the Fig. the value of current(A) in each discharge rate of a storage battery of which 5 hour rate capacity is 400 Ah is as shown below:

5 hour rate(5 HR)=400Ah/5=80 A
3 hour rate(3 HR)=400Ah x 0.85/3=113A
2 hour rate(2 HR)=400Ah x 0.75/2=150A
1 hour rate(1 HR)=400Ah x 0.6/1 =240A

As seen from the above description, [the more frequently the lifting work is made or the high speed running is made in the operation of a fork lift the shorter, the available working time of its storage battery becomes.]

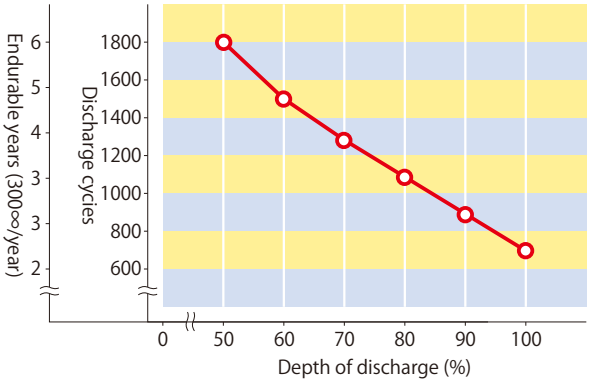
Relation between Temperature and Capacity of a Battery



As seen from the fig. shown above,[in the work by means of a forklift truck the actual available working time of its battery is shorter in winter than that of it in summer. Specially in case of work in a refrigerated warehouse, the actual available working time of a battery is conspicuously shortened due to high frequency of lifting works made (because large electric current is discharged in this case).

As a Countermeasures against the problem mentioned above. it is recommended to charge a battery to be used in winter or in a refrigerated warehouse to be a little overcharged condition and besides to warm up the temperature of it in advance(The most suitable temperature of battery in this case seems to be about 30℃)]

Life of Clud type of Storage Battery for Forklift truck



Depending more or less on the use and using condition,etc. of a fork lift truck, in ordinary cases the life of a storage battery is indicated by its endurable years for use or capable cycles between charging and discharging before the capacity of battery has decreased to be 60% to 80% of the rated one.

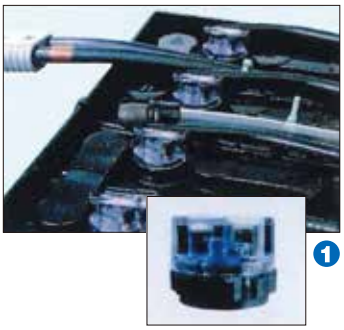
Although the life of this storage battery depends much on the following conditions. it can be so long expected as up to either earlier coming one among about 4 years of using period and approximately 1,200 cycles between charging and discharging in ordinary using conditions.

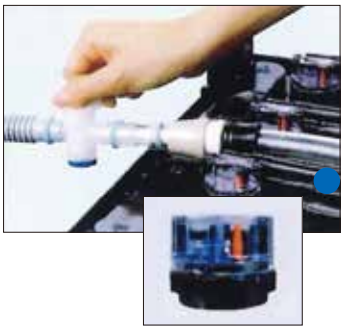
ACCESSORIES

ONE TOUCH REPLENISHING EQUIPMENT MYTY FILLER F88

Features

- Remarkable short replenishing time.
- Replenishing is possible without pulling out the battery from forklift.
  This feature is particularly convenient for the reach type forklift.
- Elimination of closing/opening work of the cap

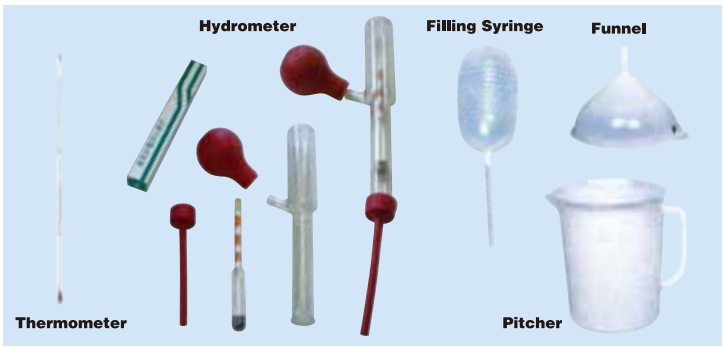




LIQUID LEVEL INDICATOR MYTY LEVEL SENSOR

- The liquid level can be checked without pulling out the battery from forklift.
- Small electric power consumption due to LED display.
- MYTY level sensor can be used in combination with MYTY FILLER F88.
- High reliability with simple circuit

MAINTENANCE TOOLS



Item	Abstract
Thermometer	scale : −20℃~100℃
Hydrometer	scale : 1.100 ~ 1.350
Filling Syringe	capacity : approx. 180cc material : po lyethylene
Funnel	major diameter : 10mm material : polyethylene
Pitcher	capacity : 2,000cc material : polyethylene

WATER REPLENISHING DEVICE

Replenishing device TYPE " M"

- Simple construction and easy operation.

"GS YUASA" TRACTION BATTERIES Made in Japan

(JIS TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
VSA5	180	109	158	280	311	2.5	11.0	54
VSA6	210	128	158	280	311	3.0	13.0	48
VSA7	250	148	158	280	311	3.5	15.0	36
VSB7	310	144	158	320	351	3.9	17.5	42
VSB8	350	148	158	320	351	3.9	19.0	36
VSB10	440	206	158	320	351	5.7	25.0	30
VSC6	275	128	158	350	381	3.9	16.0	48
VSC8	360	144	158	350	381	4.4	19.5	36
VSC8A	385	148	158	362	393	4.5	22.0	36
VSC12	550	244	158	350	381	7.8	31.0	24
VSD320	320	128	158	376	407	4.2	18.0	48
VSD360	360	128	158	376	407	4.1	19.5	48
VSD8D	390	148	158	376	407	4.8	22.5	36
VSD3A	170	60	158	395	426	1.9	9.5	96
VSD4B	225	94	158	395	426	3.2	13.0	60
VSD5A	265	94	158	395	426	3.2	15.0	60
VSD7C	340	144	158	395	426	5.5	19.5	42
VSD8AC	435	144	158	395	426	4.8	22.5	42
VSD9AC	475	161	158	395	426	5.4	25.0	36
VSD10AC	540	177	158	395	426	6.1	28.0	30
VSF3A	210	60	158	490	521	2.4	12.0	96
VSF3C	225	90	158	490	521	4.1	14.5	66
VSF4	290	90	158	490	521	3.9	16.5	66
VSF340	340	90	158	490	521	3.7	18.5	66
VSF5A	350	99	158	490	521	4.0	19.0	60
VSF5	360	109	158	490	521	4.7	20.0	54
VSF6A	420	109	158	490	521	4.5	22.0	54
VSF8	545	144	158	490	521	6.1	29.0	42
○ VSF10A	700	177	158	490	521	7.7	36.5	30
VSI3A	240	60	158	519	550	2.5	12.5	96
VSI3D	230	78	158	519	550	3.6	14.0	78
VSI4A	300	78	158	519	550	3.4	16.0	78
VSI4	320	90	158	519	550	4.0	19.0	66
VSI7C	505	128	158	519	550	5.9	26.5	48
VSI8	635	161	158	519	550	7.4	33.0	36
○ VSI9	720	186	158	519	550	8.8	38.0	30
○ VSI11	935	225	158	519	550	10.7	47.5	24
VSH3A	315	60	158	700	731	3.4	20.0	96
VSH4S	375	70	158	700	731	3.6	23.0	78
VSH4A	420	78	158	700	731	4.6	25.5	66
VSH4	510	90	158	700	731	4.9	30.5	40
VSH5A	525	94	158	700	731	5.5	30.5	40
VSH6A	630	109	158	700	731	6.5	36.5	40
VSH7A	735	128	158	700	731	7.7	42.5	40
VGC225	225	90	158	350	381	2.7	14.0	60
VGC520	520	186	158	350	381	5.6	30.5	30
VGD165	165	57	158	395	426	1.9	10.0	96
VGD205	205	69	158	395	426	2.2	12.5	78
VGD255	255	81	158	395	426	2.6	15.5	72
VGD340	340	109	158	395	426	3.8	19.0	54
VGD415	415	128	158	395	426	4.3	24.0	48
VGD470	470	144	158	395	426	4.8	27.0	42
VGD575	575	177	158	395	426	6.1	33.0	30
VGD620	620	186	158	395	426	6.3	35.5	30
VGD485	485	144	158	410	441	5.1	27.5	42
VGD545	545	161	158	410	441	5.7	30.5	36
VGD565	565	177	158	410	441	6.6	32.0	30
VGD600	600	177	158	410	441	6.5	33.5	30
○ VGD700	700	206	158	410	441	7.4	40.0	30

○: DOUBLE POLE

(JIS TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
VGE245	245	75	158	447	478	2.9	15.0	78
VGE305	305	90	158	447	478	3.5	18.0	66
VGE700	700	186	158	447	478	7.2	40.5	30
VGF201	201	57	158	490	521	2.4	12.5	96
VGF220	220	60	158	490	521	2.5	13.0	96
VGF260	260	69	158	490	521	2.9	15.0	78
VGF280	280	75	158	512	543	3.4	17.0	78
VGF370	370	99	158	490	521	4.4	21.0	60
VGF445	445	109	158	490	521	4.8	24.0	54
VGF530	530	128	158	490	521	5.4	30.5	48
VGF605	605	148	158	490	521	6.4	34.5	36
VGF730	730	177	158	490	521	7.6	42.0	30
○ VGF785	785	186	158	490	521	7.9	45.0	30
○ VGF865	865	206	158	490	521	8.9	49.5	30
○ VGF935	935	225	158	490	521	9.8	53.5	24
VGI240	240	60	158	519	550	2.6	13.5	96
VGI285	285	69	158	519	550	3.0	16.5	78
VGI370	370	90	158	519	550	4.1	21.0	66
VGI440	440	109	158	519	550	5.1	25.5	54
VGI470	470	109	158	519	550	5.0	27.5	54
VGI565	565	128	158	519	550	5.7	32.0	48
VGI645	645	148	158	519	550	6.8	36.5	36
VGI725	725	161	158	519	550	7.3	40.0	36
○ VGI845	845	186	158	519	550	8.4	48.0	30
○ VGI930C	930	206	158	519	550	9.4	52.0	30
○ VGI1005	1005	225	158	519	550	10.4	56.5	24
○ VGI1080	1080	244	158	519	550	11.4	60.5	24

(GC TYPE/ 6V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
GC140	140	264	183	269.5	297	6.9	30.0	20
GC200	200	264	183	269.5	297	6.3	33.0	20

(EB TYPE/12V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
EB25TE	25	197	129	202	227	2.1	11.5	40
EB35TE	35	238	129	202	227	3.0	14.0	28
EB35LE/LER	35	238	129	202	237	3.0	14.0	28
EB50TE	50	260	173	202	225	3.8	20.5	20
EB50LE	50	260	173	202	236	3.8	20.5	20
EB65TE	65	305	173	205	228	4.1	24.5	18
EB65LE/LER	65	305	173	205	237	4.1	24.5	18
EB100TE/LE/LER	100	409	173	212	244	6.7	34.5	15
EB120TE/LE/LER	120	504	182	212	258	9.0	41.0	10
EB130TE/LE/LER	130	504	182	212	258	8.8	45.5	10
EB145TE/LE/LER	145	508	223	213	259	10.0	51.5	10
EB160TE/LE/LER	160	508	223	213	259	9.8	54.5	10

"GS YUASA" TRACTION BATTERIES Made in China

(JIS TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
VSD3A	170	60	158	395	426	1.9	9.5	96
VSD6	335	128	158	395	426	4.3	19.0	48
VSD7C	340	144	158	395	426	5.5	19.5	42
VSD8AC	435	144	158	395	426	4.8	22.5	42
VSD9AC	475	161	158	395	426	5.4	25.0	36
VSD10AC	540	177	158	395	426	6.1	28.0	30
VSF3A	210	60	158	490	521	2.4	12.0	96
VSF3C	225	90	158	490	521	4.1	14.5	66
VSF4	290	90	158	490	521	3.9	16.5	66
VSF5A	350	99	158	490	521	4.0	19.0	60
VSF6A	420	109	158	490	521	4.5	22.0	54
VSF340	340	90	158	490	521	3.7	18.5	66
VSH4A	420	78	158	700	731	4.6	25.5	66
VSH5A	525	94	158	700	731	5.5	30.5	54
VSH6A	630	109	158	700	731	6.5	36.5	42
VSH7A	735	128	158	700	731	7.7	42.5	42
VGD485	485	144	158	410	441	5.1	27.5	42
VGD545	545	161	158	410	441	5.7	30.5	36
VGD560	560	177	158	395	426	5.5	29.0	30
VGD565	565	177	158	410	441	6.6	32.0	30
VGD600	600	177	158	410	441	6.5	33.5	30
VGI370	370	90	158	519	550	4.1	21.0	66
VGI470	470	109	158	519	550	4.5	25.5	54
VGI565	565	128	158	519	550	5.7	32.0	42
VGI645	645	148	158	519	550	6.8	36.5	36
VGI725	725	161	158	519	550	7.3	40.0	36

(DIN TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
3DCE270 (3PzS270)	270	65	198	475	505	2.8	18.5	75
2DCJ230 (2PzS230)	230	47	198	545	575	2.3	14.0	100
3DCJ345 (3PzS345)	345	65	198	545	575	3.3	19.5	75
4DCJ460 (4PzS460)	460	83	198	545	575	4.3	26.5	55
5DCJ575 (5PzS575)	575	101	198	545	575	5.2	32.5	45
4DCP560 (4PzS560)	560	83	198	685	715	5.7	33.0	55
5DCP700 (5PzS700)	700	101	198	685	715	7.2	41.0	45
3DCS465 (3PzS465)	465	65	198	720	750	4.5	26.5	50
3DCM360A (3PzS360)	360	65	198	575	605	4.0	19.5	75
4DCM480A (4PzS480)	480	83	198	575	605	5.1	26.5	55
5DCM600A (5PzS600)	600	101	198	575	605	6.4	33.0	45
7DCP980A (7PzS980)	980	137	198	685	715	9.0	60.0	20
3DCS450A (3PzS450)	450	65	198	720	750	4.5	26.5	60
4DCS600A (4PzS600)	600	83	198	720	750	6.1	34.0	50
5DCS750A (5PzS750)	750	101	198	720	750	7.7	42.0	40
8DCS1240A (8PzS1240)	1240	155	198	720	750	11.0	70.0	20

"GS YUASA" TRACTION BATTERIES Made in Thailand

(JIS TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
VSD3A	170	60	158	395	426	1.7	9.5	96
VSD6	335	128	158	395	426	4.2	19.0	42
VSD8AC	435	144	158	395	426	4.6	23.0	42
VSD9AC	475	161	158	395	426	5.1	25.5	36
VSD10AC	540	177	158	395	426	5.6	30.0	30
VSF3A	210	60	158	490	521	2.1	12.5	96
VSF3C	225	90	158	490	521	3.6	15.0	66
VSF4	290	90	158	490	521	3.5	17.5	66
VSF340	340	90	158	490	521	3.3	19.5	66
VSF5A	350	99	158	490	521	3.8	20.0	60
VSF6A	420	109	158	490	521	4.1	23.0	54
VSF8	545	144	158	490	521	6.6	30.5	42
○ VSF10A	700	177	158	490	521	6.8	38.0	30
VSI4C	350	90	158	519	550	3.7	19.0	66
VSI6C	435	109	158	519	550	4.2	24.5	54
VSI7C	510	126	158	519	550	4.9	28.0	48
VSI9C	655	158	158	519	550	6.2	36.0	30
○ VSI9D	715	171	158	519	550	6.7	40.0	30
○ VSI11C	865	206	158	519	550	8.1	47.5	24
VCH3C	300	60	158	700	731	3.0	18.0	66
VCH4C	400	78	158	700	731	4.1	23.0	54
VCH6C	580	109	158	700	731	5.9	33.0	36
○ VCH7C	680	126	158	700	731	6.9	38.5	36
○ VCH8C	770	142	158	700	731	7.7	43.5	96
VGD485	485	144	158	410	441	5.1	27.5	42
VGD560	560	177	158	395	426	5.5	29.0	30
VGD565	565	177	158	410	441	6.6	32.0	30
VGD600	600	177	158	410	441	6.5	33.5	30
○ VGD700	700	206	158	410	441	7.4	40.0	24
VGI370	370	90	158	519	550	4.1	21.0	66
VGI470	470	109	158	519	550	4.5	25.5	54
VGI565	565	128	158	519	550	5.7	32.0	48
VGI645	645	148	158	519	550	6.8	36.5	36
VGI725	725	161	158	519	550	7.3	40.0	36

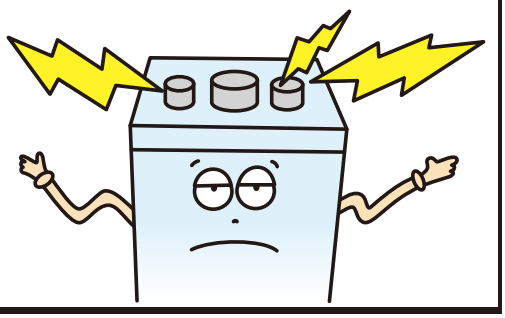
○: DOUBLE POLE

(DIN TYPE/2V)

MODEL	Nominal Capacity (Ah/5HR)	Dimensions (mm)				Acid (L)	Weight with Acid (kg)	Q'ty per Pallet
		(L)	(W)	(h)	(H)			
2DCM250 (2PzS250)	250	47	198	575	605	2.7	15.0	95
3DCM375 (3PzS375)	375	65	198	575	605	3.9	21.5	65
4DCM500 (4PzS500)	500	83	198	575	605	5.0	28.0	50
5DCM625 (5PzS625)	625	101	198	575	605	6.2	34.5	40
2DCS310 (2PzS310)	310	47	198	720	750	3.0	18.5	80
3DCS465 (3PzS465)	465	65	198	720	750	4.5	26.5	50
4DCS620 (4PzS620)	620	83	198	720	750	6.0	34.5	40
5DCS775 (5PzS775)	775	101	198	720	750	7.4	42.5	30

1 Avoid overdischarge.

Overdischarge will shorten the life of battery.
You must avoid driving until the very moment that a vehicle can no longer move.

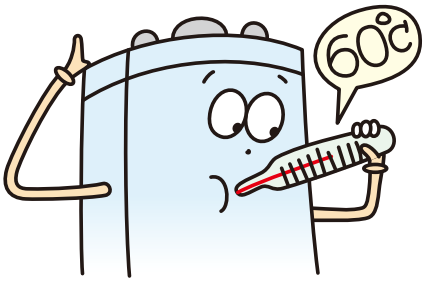


2 Avoid overcharging.

Overcharging will cause the short life of the battery.
The battery must be charged by proper method.

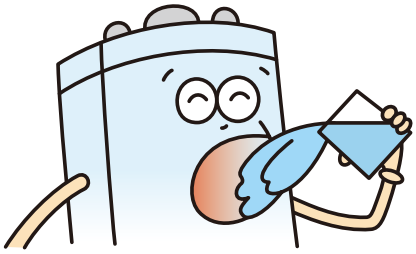
3 Avoid over-heating of the battery.

Always keep the temperature of the electrolyte below 60℃.



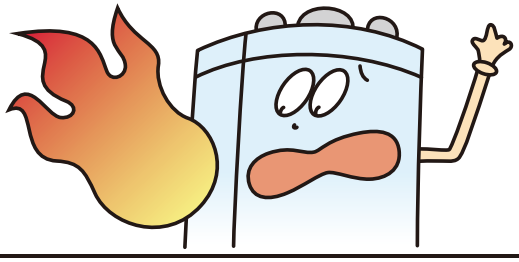
4 Keep the electrolyte level at proper height.

Electrolyte level gradually lowers during service.
When the electrolyte level decreases, fill in purified water at once.



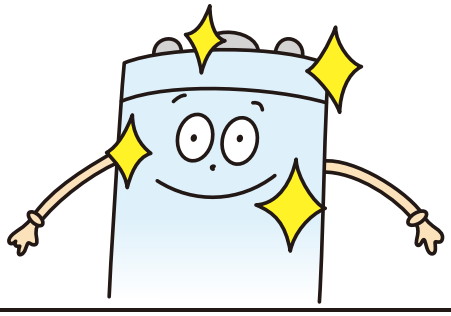
5 Use of fire strictly prohibited.

Since hydrogen and oxygen are released through the vent plugs of the battery always keep battery free from fire.



6 Keep the battery dry and clean.

Keep the outside of the battery clean and dry to prevent leakage and corrosion.



CAUTIONS

- Take care to prevent overdischarging.
- Make a proper charging so as not to be overcharged.
- Keep the level of electrolyte properly by replenishing distilled water as required.
- As some explosive gas will be generated during charging, never to near any fires to it.
- Take care not to allow the temperature of battery to rise over 50℃ at all times.
- Keep the connections of battery and its surrounding in clean and dry condition.

Design and specifications are changed without notice.Confirm with us before ordering.

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